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Standard Costs in an Engineering Industry

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(A Lecture to the Australasian Institute of Cost Accountants, Victorian Division)

1. I think I should make it clear at the outset that the structure which is to be described to you is one which has been designed and developed for a specific branch of the engineering industry and to meet the particular requirements of the Sunshine Works. It is not to be inferred from this that the principles upon which the scheme is established are necessarily different from those which can be and are, in fact, used in many other industries. On the contrary, we are following what we believe to be the most modern methods used in America and which, in that country, are applied over a wide range of industries wholly dissimilar in the nature of their products. It is only in matters of detail that the scheme would require modification to suit other types of industries. The forms which are used to illustrate the lecture could not, of course, have universal use. They have been designed for a particular industry and their application to other industries would require alteration in set-up. With these qualifications, the system which I will outline will meet the requirements of any factory using mass production methods for the manufacture of a standard range of products.

2. *Outline of the Problem.* The products of the Sunshine factory include agricultural machines and implements, shafting, axles, bolts, nuts and rivets, stationary petrol engines, and many other miscellaneous lines. The principal raw materials used are bar iron and steel, coil steel, black and galvanised sheets, pig iron and various kinds of timber. The timber is bought unseasoned and is seasoned and dressed at the works. All castings used are made at the works—the foundry is a considerable industry in itself. The labour classification of the employees covers about 130 occupations each with a different marginal rate in relation to the basic wage. Most of these are employed under an industry award of the Commonwealth Arbitration Court and, therefore, the basic wage rate may be altered every quarter. I mention this point because this instability of wage rates creates a very real problem for cost accountants in Australia and one which their opposite numbers in America are not called upon to face with anything like

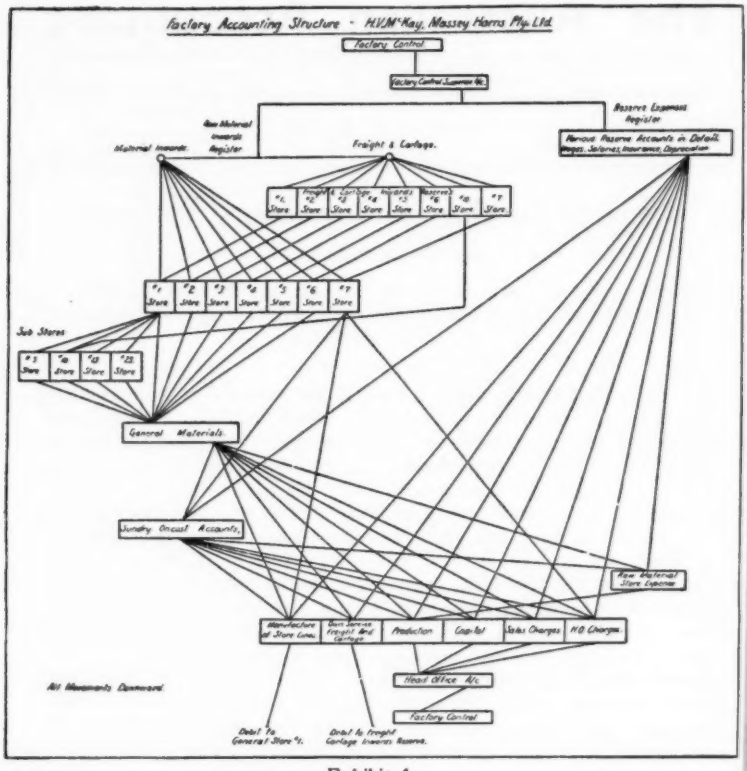


Exhibit 1.

the same frequency. Some time ago I read that the National Cash Register Company in U.S.A. had no alterations of wage rates for nine years, and this condition is not, I think, unusual in America, where there is a wide use of incentive plans with constant rates. Our treatment of this problem will be explained later.

For the purposes of cost control the factory is divided into approximately 100 departments and this division closely conforms to the design of functional responsibility; there are further subdivisions of some of these departments into production centres to permit of greater refinement of oncost application and to facilitate scrutiny and control. Machine rates are established where necessary.

3. *Production Procedure.* It is necessary to say something about the procedure whereby production orders are placed on the factory. The practice is as follows: At intervals throughout the year the sales division prepares estimates of the quantities of machines, implements and parts which they will require for

seasonal sales, and these are examined by the production engineer who determines when the production programmes necessary to meet the estimates will be launched on the factory. He must make sure that the finished products will be ready for distribution at the times nominated by the sales division, and this means that he must be in a position to know how long the parts will take to fabricate and assemble. He must also, as far as possible, endeavour to maintain an even load on the factory and so stabilise the labour force. All this necessitates careful planning and involves the maintenance of records to show the production load on machine tools and production centres and to keep track of the movement of parts through the various departments. All parts required for a machine must reach the assembly line at the same time and, since the time required to process the various parts necessarily

TEMPORARY STANDARD OPERATIONS FOR NEW PARTS. No. 2301

DATE ISSUED..... PART NO..... DESCRIPTION.....
MATERIAL..... LENGTH..... SECTION..... WEIGHT.....

OPER NO.	DEPT.	DESCRIPTION OF OPERATION & TOOLAGE REQUIRED	MACHINE	GANG & CLASS	EST HOURS PER 100 P.W.	D.W.	SETS
		DIP HAND PAINT DELIVER TO DEPT.					

PROPOSED TOOLAGE.....

SIGNED.....FOR PRODN. ENGINEER.

TO PLANT OFFICE TOOLAGE ORDERED.....PLANT ENGINEER PASS ON TO PLANNING OFFICE CONTROL CARDS FINALISED.....

Exhibit 2.

differs according to the operations to be performed on them, the production orders have to indicate when the operations are to be commenced as well as when they are to be finished. It will be realised, therefore, that there must be an estimated operation time for every operation on every component part; this provides the basis for production control and for wage payments under the piece-work plan. These standard times are also the basis for the payment of piece-work rates and for determining the standard labour cost.

4. *The Specification.* When a machine or implement has passed the experimental stage and has been approved as a standard product, the production engineer lays down the material specifications for every part involved and sets the operations which are to be performed. For this purpose he uses a form which provides information as to the material to be used, its dimensions, its weight and the operations to be performed, the equipment to be used, the machine tools involved and the class of labour to be employed on each operation. See Exhibit 2. This form is the

MASTER CARD.

PART No. V1037. — PART No. V1037.

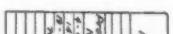
Class No. 15
Raw Section — 1 1/16 RD.
Finished Section
Size Raw Stock
Amount per 100
References
Size Each 4'-4"
Size Each
Cuts.
Wt per 100. 1632-80

Description: Crank for Straw Walkers
Supersedes
Used On "F" Type Auto Header
Replaced by
" 1 10631-1
" 2 10688-2

Remarks

Oper No	Dept	Description of Operation + Toolage	Machine No	Gange Class	No per Set	Est Time per 100 P/W	Est Time per 100 D/W	Est Time per 100 Sets	Allowed Time per 100 S.T.	Allowed Time per 100 T.T.	Allowed Time per 100 Sets	Allowed Time per 100 Rego	Allowed Time per 100 Date
1.	37	Swage - 4 Per Bar.	Helve 62.						2.35				
2.	37	Pickle.	Vat.	1 Pickler					2.60				
3.	37	Draw Down to 1 7/8" x .915" - .910"	Draw Bench 107	1 M/St. 1 M.I						2.23			
4.	37	Reel in Bars.	B.R. 19						12.00				
5.	37	Straighten Bars.	Hand	1 Strnr. 1 Lab.						1.19			
6.	37	Part off.	Lathe 1058	1 M/St					6.25		27.6		
7.	70	Crank Cpts (Oil) BB 2095, 2110 2094	B.des + Crank 1132	1 Bdsr. 2 Hr					5.92		31.8		
8.	71	Heat Treat	G.B.						6.00				
9.	73	Straighten for Drilling	Hand	1 Fitter					4.48				
10.	74	Drill Cpts.	H.S. Drill 17	1 Driller					17.72		12.0		
11.	74	Centre Both Ends.	Lathe 104	1 Turner					4.90		41.7		
12.	74	Straighten Both Ends + Test in Centres	Lathe 104	1 Turner					5.31				
13.	74	Turn 2 Ends 1st Oper.	Lathe 104	1 Turner					7.30		41.7		
14.	74	Turn Eccentrics	Lathe 104	1 Turner					12.47		41.7		
15.	74	Turn 2 Ends 2nd oper.	Lathe 104	1 Turner					9.26		41.7		
16.	74	File Eccentrics to Limit Gauge	Lathe 104	1 Turner					15.94		41.7		
17.	74	File 2 Ends	Lathe 104	1 Turner					6.82		41.7		
18.	74	Mill 2 Flats	Milling 56	1 M.I					5.19		66.6		

Exhibit 3.



medium for establishing the standard specification and operation lay-out of the parts. This record is called the "Master Card" (Exhibit 3) and it is the foundation of the whole specification and costing structures. The face of the card provides complete particulars as set out in the previous exhibit and gives a history of all the changes which take place either in material or operations. The operations are set out in the order in which they occur, and the standard operation times per 100 parts are shown; these are the "allowed times" and include the piece-work premium time. This time extended at the current wage rate for the class of labour involved will give the operational labour cost. In cases where the operation time cannot be laid down definitely, initially, temporary time allowances are fixed until such time as the motion study men time the job and a piece-work contract is made with the operators. The period for which a temporary time may be used is strictly limited and the cards on which a standard time is wanted are marked with a metal colour flash to remind the specification clerks to prod the motion study department. The reverse side of

Exhibit 3.

Part No V 1037

Program No.	M/c or Imp	Qty Reqd	Stock	Date & Quantity Ordered	Depts. & Quantity Completed 32	16	21	13	14	Short	Excess	Program No	M/c or Imp	Qty Rq
1-1-38				5-6-38	10-6-38	16-6-38	20-6-38	10-5-38	17-8-38					
1475	V	100		100	100	100	100	100	100					
19-7-38				19-7-38	22-7-38	24-7-38	26-7-38	29-7-38	7-8-38					
Prd	V	125		125	125	125	125	125	125					

Exhibit 4.

DATE.....

PLANNING CHANGE RECORD. No. 5197

REQUISITION NO.....FOR PART NO.....

NEW SPECIFICATIONS.

MATERIAL ANALYSIS.....SECTION.....LENGTH.....WT.....

MATERIAL ANALYSIS.....SECTION.....LENGTH.....WT.....

OPER NO.	DEPT.	DESCRIPTION OF OPERATION & TOOLAGE REQUIRED	MACHINE	GANG & CLASS	EST. HOURS PER 100 P.W.	D.W.	SETS.

DISCARDED SPECIFICATIONS

MATERIAL ANALYSIS.....SECTION.....LENGTH.....WT.....

MATERIAL ANALYSIS.....SECTION.....LENGTH.....WT.....

OPERATIONS NO.....

GENERAL DETAILS

REASONS FOR CHANGE.....

CHANGE TO COME INTO EFFECT.....SIGNED.....FOR PRODN. ENGINEER.

TO COST OFFICE RECORDED BY.....FOR COST ACCOUNTANT.

Exhibit 5.

the card (Exhibit 4) gives particulars of the number of the production programme, the quantity of the part required and records the deliveries of the processed parts through the cycle. When, for any reason a change is made in the specification, either as to material or as to the operations, the Production Engineer's Department puts out a planning change record (Exhibit 5) and this is the formal authority for altering the Master Card. Each operating department has a set of standard operation cards covering the specifications of the parts in so far as they are processed in that particular department. These standard operation cards show the details of material and complete information as to the machine tools to be used, the class of labour to be employed, piecework times, etc. They constitute the departmental instructions as to specification and operation procedure. The methods and classes of labour to be used laid down for the departmental managers do not allow the use of any discretionary power, and if circumstances render a departure from the standard method essential, they must obtain the Production Engineer's authority. Any departure from standard is notified to the Cost Office and the variation in cost caused thereby is computed and accounted for. These variations from standard practice arise from machine breakdown, absence of labour and the like causes and they are fully tabulated and valued in respect of every machine in every department. The cost of stoppage is classified into mechanical breakdown, faulty material, awaiting material, absence of labour, etc., and each week the responsible officer whose department was at fault is given the cost of the lost time for labour and fixed expense. The Plant Engineer is held responsible for mechanical faults and the Production Engineer for delays in delivery of material, etc. The excess costs which arise from these causes are deemed to be chargeable to factory management and are debited to general establishment charges. Defects in processing are deemed to be the responsibility of the foreman, and the cost of rectification is charged to departmental variable expense as an item shop overhead.

5. *Material Control.* I think that what I have said will have given you an adequate idea of the operation control from the production viewpoint, and I will now outline the procedure with regard to the ordering and issuing of material. There is for every machine and implement a complete bill of quantities of the material required for their production. These bills of quantities are divided into groups corresponding with the raw materials stores, so that there are schedules for bar iron and steel, timber, sheet iron and steel, etc., which show the quantities required for one, five and 100 machines. These quantities have been worked up from the specifications and represent what is required to fabricate the programme in contemplation. Upon receipt of the estimate from the sales division, the stores ledger keepers check off their stock balances and orders already placed for raw materials and make sure that all the requisite material is available. As a rule the estimates are put out, by the sales division, well in advance of the required delivery date, and if stock has to be purchased there is ample time

to procure it. Raw material in excess of the amount required for estimates may not be purchased or kept in stock without the authority of the management. Material which has to be purchased is requisitioned for by the Stores Department on the Purchasing Department, and if for any reason a reserve stock is to be established, managerial approval must be sought by the Purchasing Department. This rule applies to all the main constituent materials already mentioned, but greater flexibility is obviously necessary and is allowed in respect of stores of a miscellaneous and general nature.

When the Production Engineer authorises the issue of a pro-

BAR IRON & STEEL STORES. No. 7013.

MATERIAL ORDER FOR PROGRAMME No. 806 ESTIMATE No. 4 1939/39

PRODUCTION OF 100 - 11 S.T. Headers - 8' CODE No. 286

DELIVER TO DEPARTMENTS	DELIVERY DATE	MATERIAL TO BE SUPPLIED AS UNDER ANALY.	SECTION	BARS	LENGTH	ACTUAL RATE	VALUE.			STANDARD RATE	VALUE.		
Cutting No 75	22 10 38	6A	1½ x ⅜"	73	20'	2/5 · 6d	10	1	5	2/5 · 6d	10	1	5
"	29 10 38	7A	1" x ⅜"	31	21' 8"	10 · 1d	1	6	1	10 · 1d	1	6	1
"	4 11 38	6A	⅜" x ⅜" x ⅜"	25	25' 9"	2/4 · 6d	2	19	7	2/3 · 4d	2	17	1
							14	7	1		14	4	7
						PRICE VARIATION – LOSS ON STANDARD						2	6
						GAIN " "							

IMPORTANT FOREMEN MUST SUPPLY A YELLOW REQUISITION FOR ANY MATERIALS REQUIRED IN EXCESS OF THE ABOVE AUTHORISED QUANTITIES.

J. Adams SPECIFICATION DEPT.

DATE 11 / 10 / 1938

Exhibit 6.

EXTRA MATERIAL REQUISITION. No. 568.

TO SPECIFICATIONS DEPARTMENT.

EXTRA MATERIAL AS UNDER IS REQUIRED FOR THE REASONS INDICATED –

PROGRAMME No. 806 ESTIMATE No. 4 1939/39 100 - 11 S.T. Headers CODE No. 286

DELIVER TO DEPARTMENTS	DELIVERY DATE	PARTICULARS ANALY.	SECTION	BARS	LENGTH	ACTUAL RATE	VALUE.			STANDARD RATE	VALUE.		
Cutting No 75	6 · 11 38	7A	1" x ⅜"	1	21' 8"	10 · 1d			10	10 · 1d			10
									10				10
						PRICE VARIATION – LOSS ON STANDARD							
						GAIN " "							

INSPECTORS REPORT. Material Issued in Department No. 57

DATE 6 · 11 · 38 J. Hayes INSPECTOR.

TO COST OFFICE.

DATE 6 · 11 · 38 J. Adams SPECIFICATIONS DEPT.

Exhibit 7.

duction order, orders covering the material required to fabricate the products are issued on the various stores (Exhibit 6). There is one order only for each store and this covers all the materials which are to be issued from that store. Material in excess of the quantities specified in these orders are not issued unless a properly certified extra material requisition (Exhibit 7) is presented. I have already explained that the specifications on which these orders are based provide for only sufficient material (with standard allowance for scrap) to execute the orders, and if material is spoiled beyond redemption, a special requisition is required. These special requisitions are costed and debited to "Excess Cost of Material Account." The excess cost is not charged to any particular production order nor to the class of machines or implements upon which the cost might be said to have actually been incurred. The view is taken that the particular batch upon which the loss arose should not be debited because of what is, after all, an accident, and that such costs are properly a loading on the material costs of the product in the aggregate.

Reverting to the material issue orders (Exhibit 6), you will notice that the document specifies the place and date when the raw material must be delivered, and this ensures that the Stores Department will see that delivery is made at the right place and at the right time. Each day these material orders are sent by the various stores to the ledger section which values the material and simultaneously posts the issues to the credit of the stock ledger (Exhibit 8). This credit is at the average purchase price of the stock balance. At the same time, the standard price of the material is inserted, this being the price upon which the standard costs of the products have been established. When all the material has been issued the difference between the total cost at the average purchase price and the total cost at the standard price is taken off to a "Material Price Variation Account." "Production Material Control Account" is charged at the standard price. Each of the stores has a Control Account to which entries are made in bulk debiting it with receipts at purchase price and crediting it with issues at (a) average purchase price and (b) at standard price. All stores inwards are recorded on a materials inwards receipt which is the medium for posting the detailed stock ledgers, and these dockets are priced and extended, added on a listing machine and posted weekly to the appropriate material control account. All prices are known before the purchase orders are issued by the Purchasing Department, and a copy of the purchase order goes to the cost office when the original is issued. Upon receipt of the invoices from the suppliers, they are checked with the material inwards receipts and certified for payment.

Stock Reports. (Exhibit 9). Every four weeks a statement is compiled showing the quantities and values of stock in the various stores, the amount on order, what is required for estimates, the issues during the period and the balance available after covering estimates. There is also shown the number of weeks consumption, at the budgeted rate, represented by stocks and on order. This report is for management purposes and provides a check on purchasing. It is not an integral part of the cost accounting structure.

STORES STOCK LEDGER

REQUIREMENTS			ORDERED						RECEIVED						REQUIRED FOR				ISSUED				BALANCE			
EST. NO.	WEIGHT T. C.	QUARTER	DATE ITEM	ORDER NO.	RATE	WEIGHT T. C.	DATE REQ'D	CONT'R.	DATE	DEBIT NOTE NO.	RATE PER TON	WEIGHT T. C. Q. L.	BARS	TOTAL TO DATE	PROD. NO.	BARS	TOTAL TO DATE	PROD. NO.	RATE	BARS	TOTAL TO DATE	BARS	RATE	AMOUNT
48	16-2	4/8	4/7	1053	@ 6/6	17-0	6/9	3017	11/9	782	[illegible]	0-1-7	1130		047	79	79	1061	10 6	79	79	1051	10 6	131 1
															049	376	455							

Exhibit 8.

RAW MATERIALS REPORT. FOUR WEEKS ENDED 26/9/38

PARTICULARS.	METAL - TONS. BAR IRON & STEEL	SHEET.	P.G. IRON.	COIL STEEL.	HOOP PINE.
STOCK AT BEGINNING OF MONTH.					
Quantity	8840				
Value	83614				
RECEIVED DURING MONTH.					
Quantity	1483				
Value	16469				
TOTAL - DEBIT.					
Quantity	10323				
Value	112083				
ISSUED DURING MONTH.					
Quantity	3860				
Value	42605				
STOCK AT END OF MONTH					
Quantity	6463				
Value	69478				
ON ORDER - TO ARRIVE.					
Quantity	2786				
Value	30146				
TOTAL - STOCK AND ON ORDER.					
Quantity	9249				
Value	99624				
REQUIRED FOR ESTIMATES					
Quantity	8843				
Value	95702				
BALANCE AVAILABLE					
Quantity	406				
Value	3922				
CONSUMPTION RATE					
Monthly Average from July	3508				
Monthly Average last 12 months	3760				
Longest Month last year	3942				
Next Equivalent Sheets next year	4726				
No. of Works requirements covered by Stock and on Order - at Present Rate	11.5				
Production Index	1009				
Price Variations	-				
Date					

Exhibit 9.

10423

SHEET NO. 1 MATERIAL - STANDARD COST. CODE 105.18

DESCRIPION. Crank for Straw Walkers. PART NO V1037

COMMON TO SUB. ASSEMBLIES - CODES 16425, V6247, V6126

REMARKS.

SIMILAR TO PART NO. REPLACING PART NO. V1583 SUPERSEDED BY PART NO.

PARTICULARS	1" LB	V38-100
ADVICE NO.	13 R	
CLASS	1 6	
SIZE	1 1/16" 6"	
LENGTH	4" 4"	
" 100	433' 4"	
WEIGHT - FOOT - LBS.	3 768	
" 100 "	1632 80	
RATE	6 16 1	19 12 2
AMOUNT		2
SCRAP % 2.00		5 5
" AMOUNT		19 17 7
TOTAL		7 3
PAINT		14 6 10
MISCELLANEOUS		
TOTAL		

Exhibit 10.

Before leaving the subject of material costs for the moment, I would remind you that there are two accounts to take care of differences between the values provided by the standard costs of material and the actual costs of material which have been incurred. These are (1) "Excess Cost of Material" and (2) "Material Price Variation." It will be evident that, with the rigidity of material control which has been imposed, waste is brought to notice and to account immediately it arises and this permits of prompt inquiry and the application of such remedies as may be necessary to prevent a recurrence. It assumes, however, that material specifications are accurately computed and that is a condition precedent to the working of this form of control. There are some 60,000 parts for each of which there is a separate material cost. The record of standard costs of materials are maintained on a form (Exhibit 10) which is designed to take care of several alterations. The particular specimen exhibited is for round steel, and it will be observed that the first column shows the cost computed at one penny per pound. A basic index price of this kind is used for all classes of material to facilitate recalculation when the standards are to be altered. The material cost is subsequently carried to a standard cost of part sheet which is described later.

Labour Costs. Just as standard quantities have been established for the element material, so have standard times been laid down for all operations throughout the cycle on every part. Fundamentally, the basis for determining the standard labour cost is time, not money. This distinction is vitally important in devising a scheme sufficiently flexible to control the costs in a plant manufacturing products of considerable variety and having a multiplicity of operations. When I first made the acquaintance of Charter Harrison's book *Standard Costs* about 1930, I was somewhat intrigued by a statement which he makes in the first few pages. He says that in the days when he first designed and installed standard cost systems he usually found that a very large percentage of the producing operations was performed on a day-work basis and this necessitated the obtaining of some kind of standards for these day-work operations. The standards had to be based on average labor cost records. He then says: "To-day, however, the author will positively refuse to make any attempt to instal a system of standard costs in a plant manufacturing a standard product of considerable variety where all producing labour is performed on a day-work basis." At the time, I must confess that I did not understand the full significance of this last statement, but the problem presented at Sunshine has made it abundantly clear that not only would it be difficult to put in a system of standard costs there in the absence of standard times, but that it would be utterly impossible. Further, the work of determining standard times, in the absence of some incentive plan, would have been of such proportions as to render the attempt impracticable under a period of years. Fortunately, there was such a plan and happily the plan provided for a time unit and not a money unit. In other words, the allowance is expressed in hours or decimal hours per 100 pieces

or repetitive operations, and not in wages per piece or per 100 pieces.

If you will look at the time study sheet (Exhibit 11) you will see that the allowed time for the operation is 10·632 minutes per piece or 17·72 hours per 100 pieces and that the contract signed by the operator and the company makes no mention of money at all. The rate which has been established provides that the operator is allowed payment, at his day-work rate for 10·632 minutes every time he processes the part. The premium or incentive time is, of course, included in the allowed time and the formula used for this purpose includes a levelling factor to bring the study to a reflection of average conditions and average skill as well as to include the bonus provision. The time allowance having been established and the contract made, it is never altered unless the method of processing is changed, and it does not matter what variations take place in wage rates. The basis for valuing the earnings of the operators is always earned time.

The great advantage of the time basis over the rate basis will be appreciated when it is realised that there are some 400,000 operations covering 60,000 parts and 130 labour classifications. With the liability to a quarterly adjustment of wage rates it would be almost impossible to compile a pay roll if the piece-work scheme were based on money rates and not on an allowed time basis. The method for computing earnings is very simple. Each week the departmental piece-work sheets are worked out to show, in terms of time, the value of each operator's production and the total time, so calculated, is then multiplied by his day-work rate.

In cases where for any reason, the incentive plan does not apply, standard performance times are nevertheless laid down, and these are used for standard cost purposes.

Labour Variations from Standard. It has already been stated that practice laid down as standard may not be departed from without authority and that the cost office is notified of all cases where such authorisation is given. These authorisations are checked off with the pay roll and the differences in labour cost arising therefrom are tabulated and the balances taken to an "Operating Labour Cost Variation Account." The balance of this account represents the difference between actual and standard cost of operating labour. The form depicted (Exhibit 12), is in respect of piece-work production, and a similar tabulation is made for day-work operations on the miscellaneous jobs for which there is no incentive, but for which standard times have been established.

Overhead. For the purposes of accounting control the departments at Sunshine are divided into two main groups, viz, Operating and Service. Operating Departments are those whose main activity is the processing of parts or assembly of parts into machines and implements for sale.

Service Departments are those whose function it is to provide the operating or producing departments with some essential service such as plant maintenance, electric power, electrical maintenance, etc.

Gang or Operators Signature & Classification.
A. E. Rees Class Dlr.

Condition of Equipment. Good {Except quill. See remarks}

Foreman F. Rudd. Dept 74

Observer H. Bjuest. Checked By R.C.C.

Approved By Chas. H. Maitland

TIME STUDY SHEET No 444

Date 10-10-38

Part No. V1037 Material 1 1/64" ϕ x 4'-4" long *16 Analysis

Description. Crank for Straw Walkers.

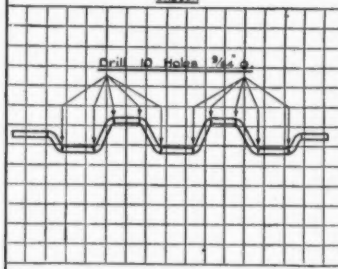
Operation *10 Drill 10 Holes 9/64" ϕ.

Equipment Drilling Jig

M/c Tool No. 3251 H.S. Drill Qnty Per Annum 2000

Jig, Die, Pattern, Mould No., Etc. *5217/DT.

Sketch



No	Constituents. Description.	Speeds, Feeds, Small Tool No.	Walk. Dist.	Times Lost	Actual	Allowed
1	Pick up Crank.		Nil.		.0553	.0723
2	Load jig & position.		"		.5107	.6680
3	Drill.	600 R.P.M. Hand Feed	"		.5573	.7268
4	Move jig to next position.		"		.0540	.0707
5	As *3	" " " "	"		.6187	.8093
6	As *4		"		.0527	.0688
7	As *3	" " " "	"		.6120	.8005
8	As *4		"		.0553	.0723
9	As *3	" " " "	"		.6280	.8214
10	As *4		"		.0560	.0732
11	As *3 & *4	" " " "	"		.7060	.9324
12	As *3 & *4	" " " "	"		.7213	.9434
13	As *3 & *4	" " " "	"		.7100	.9286
14	As *3 & *4	" " " "	"		.7173	.9382
15	As *3 & *4	" " " "	"		.7160	.9366
16	As *3 & *4	" " " "	"		.7093	.9277
17	Position & unload				.4807	.6288
18	Inspect.				.0760	.0994
19	F.T.F.				.0553	.0723
20						

Rate per 100 17·72 Hrs.
Rate per 100 Sets 12· Hrs.

Total Time Allowed Per Piece 10·6320

Remarks & Suggestions
Plant Engineer notified to re-condition quill on this M/c.
P.C.R. *6519.

RATE IS NOT VALID UNTIL APPROVED & SIGNED BY FACTORY SUPERINTENDENT OR PRODUCTION ENGINEER

Part No. V1037
Description. Crank for Straw Walkers.
Operation *10 Drill 10 Holes 9/64" ϕ.
Discarded Oper. *10 Drill 12 Holes 9/64" ϕ. Cancel Rate 21·26 Hrs.
M/c. Tool & No. 3251 H. S. Drill "
Special Tools *5217/DT.
Rate per 100 17·72 Hrs.
1 M/c.
2 M/cs.
3 M/cs.
4 M/cs.
Set Up 12· Hrs. per 100
Classification 1 Dlr.
Dept 74.
P.C.R. *6519
Observer H. Bjuest.
Date 10-10-38
Entered on Piece Work Card By W.M. Date 12-10-38
Entered on Cost Office Card By ga Date 12-10-38

Exhibit 11.

Sheet 1

Part No. V1037

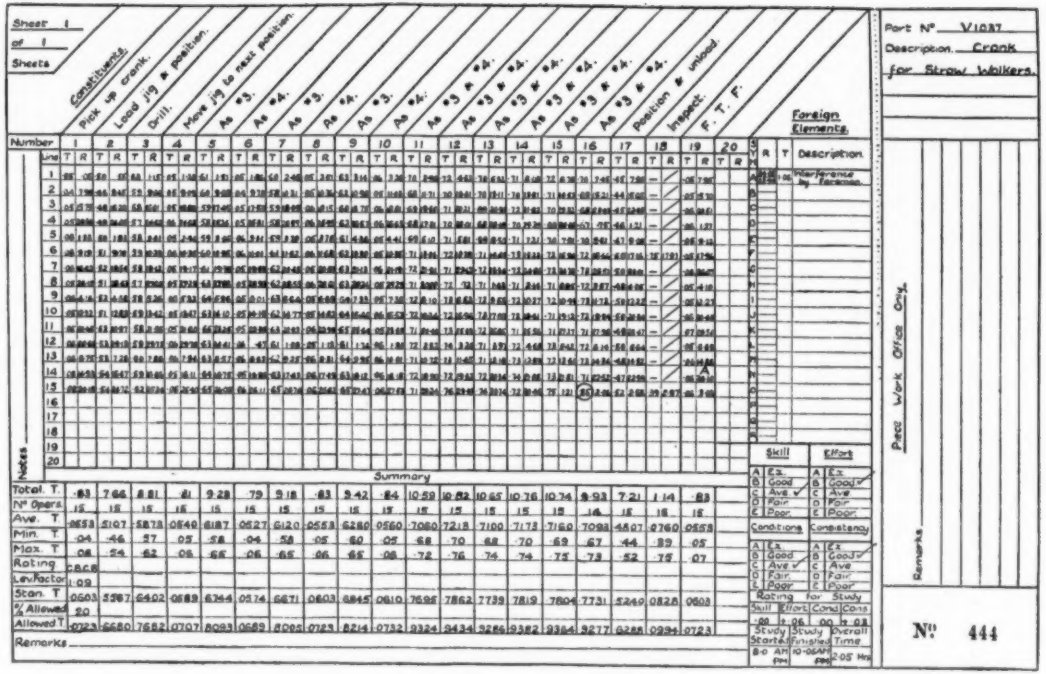


Exhibit 11 (Continued).

DAY Thursday 13-10-38

PIECE WORK PRODUCTION

BY ALTERNATE OR TEMPORARY METHODS

			STANDARD					METHOD USED					LOSS
PART NO.	QTY.	DEPT NO.	OPERATION	TIME	RATE	COST		DEPT NO.	OPERATION	TIME	RATE	COST	VARIATION
V	651	48	4 Turn 1st	21 53	·801	19 10		48	4 Turn 1st	21 53	2·091	2 11 9	1 11 11
V	651		5 " 2nd	15 63	·801	18 9			5 " 2nd	15 10	2·091	2 9 -	1 10 3
B	70	205	9 Drill No 813	7 85	·801	12 11			9 Drill 113	6 45	1·83	1 4 2	11 3
V	311	61	Drill No 802	6 14	1·830	6 10			Drill 113	9 01	1·83	11 9	4 11

Exhibit 12.

DEPT NO. 98
DEPARTMENT Steel Iron Machine
FINANCIAL YEAR 1938-39

OVERHEAD CONTROL ACCOUNT

ITEM	No.	STANDARD COST YEAR		MONTH		WEEK		%	WEEK ENDED 17-10-38		%	%	%	%
DIRECT LABOUR PRODUCTION														
WORK IN PROGRESS														
SERVICES														
TOTAL		12600		1015 11 2		243 17 9			227 12 8					
SHOP CHARGES - VARIABLE														
	1													
OVERTIME PREMIUM	2	304 · ·		40 12 6		10 3 1	4		18 18 2	8	5·7			
MAKE-UP WAGES	3	63 · ·		5 1 7		1 5 5	50		2 3 2		7·5			
TEMPLATE ATTENDANCE	4	293 11 7		23 13 3		5 18 4	2·33		5 15 ·		2·00			
PROCESS ANNEALING	5	1838 · ·		157 8 3		38 7 1	19·58		42 8 11		14·75			
STOCK MOVING	6	693 · ·		55 17 11		13 19 7	7·00		13 13 11		4·75			
INTERNAL TRANSPORT	7	188 · ·		15 4 8		3 16 2	1·50		4 6 4		1·50			
WORKERS COMPENSATION	8	220 10 ·		17 15 5		4 8 10	1·75		5 · 9		1·75			
MAINTENANCE OF PLANT-INT.	9													
" " " SERVICE	10	1071 · ·		86 6 5		21 11 7	8·50		24 2 11		8·5			
PERMANENT TOOLS EXPENSES	11	2110 10 ·		170 2 2		42 10 6	16·75		44 8 ·		15·41			
PERISHABLE "	12	293 11 7		23 13 3		5 18 4	2·33		4 15 ·		1·65			
ELECTRIC POWER AND LIGHT	13	1343 3 3		108 5 2		27 1 4	10·66		33 18 ·		11·78			
OIL FUEL	14	63 · ·		5 1 7		1 5 5	·50		1 11 8		·55			
FUEL - OTHER	15													
AIR	16	31 10 ·		2 10 9		· 12 8	·25		· 14 5		·25			
GAS	17													
EMPLOYEES SICK & HOLIDAY PAY	18	31 10 ·		2 10 9		· 12 8	·25							
EXPENDED MATERIALS	19	132 6 ·		10 13 3		2 13 4	1·05		3 18 3		1·36			
PETROL AND OIL	20													
RECTIFICATION WORK	21	63 · ·		5 1 7		1 5 5	·50		14 5 ·		·25			
	22													
	23													
TOTAL		9055 12 3		769 17 8		182 9 3	71·87		218 8 11		75·21			
SHOP CHARGES - SEMI FIXED														
SUPERVISION	24	1301 · ·		137 2 ·		34 5 6	13·58		34 5 6		11·91			
CLERICAL	25													
SICK AND HOLIDAY PAY	26	183 · 0		22 17 ·		5 14 3	2·25							
GOVERN STAFF MAINT. INTERNAL	27	252 · ·		20 8 3		5 1 3	2·00		3 6 2		1·15			
" " " SERVICE	28	94 10 ·		7 12 4		1 18 1	·75		1 3 5		·38			
MAINTENANCE OF BUILDINGS	29	189 · ·		15 4 8		3 16 2	1·50							
LABORATORY SERVICE	30	41 11 7		3 7 ·		16 9	·37		14 5 ·		5·5			
	31													
	32													
TOTAL		2561 11 7		206 9 3		51 15 4	20·35		39 19 6		13·89			
SHOP CHARGES - FIXED	33													
DEPRECIATION OF PLANT	34	2205 · ·		177 14 6		44 8 7	17·50		44 8 7		15·45			
" PERMANENT TOOLS	35	2308 11 7		185 3 ·		46 10 9	18·33		46 10 3		16·17			
" PERISHABLE "	36													
" BUILDINGS	37	63 · ·		5 1 7		1 5 5	·50		1 5 5		·44			
RATES AND TAXES	38	31 10 ·		2 10 9		· 12 8	·25		· 12 8		·22			
FIRE INSURANCE	39	283 10 ·		22 17 ·		5 14 3	2·25		5 14 3		1·96			
HOUSE REGISTN & INSURANCE	40													
TOTAL		4892 11 7		394 6 10		98 11 8	38·83		98 11 8		34·26			
SHOP CHARGES - TOTAL		16508 5 7		1310 13 9		332 16 5	131·05		355 · 1		124·36			
FACTORY OVERHD - SEMI FIXED	41	819 · ·		66 · 2		16 16 1	6 58		17 5 8		6·01			
" " FIXED	42	1323 · ·		106 12 8		26 13 2	10 53		28 4 10		9·81			
ADMINISTRATIVE OVERHD	43	189 · ·		15 4 8		3 16 2	1·50		3 19 7		1·38			
OVERHEAD TOTAL		18840 5 7		1518 11 6		379 12 10	149 56		404 10 2		142·56			
TOTAL DEBIT									692 5 10					
CREDIT AT STANDARD									719 9 2					
BALANCE - LOSS														
GAIN									27 3 4					

Exhibit 13.

There is a control account for every department, both operating and service, and these accounts are debited with the costs they incur either on their own behalf or in the course of performing a service for another department. The structure is such that all expense is brought to account, initially, into the control of the department which actually incurs it and it is then applied or distributed to the departments on whose behalf it was incurred. For example, all expenditure on plant maintenance is initially charged to the plant maintenance account and at the end of each accounting period, the total is cleared by distribution to the departments or accounts for whom the expense was incurred. This type of structure has the advantages that there is complete disclosure of the full costs of all services, which are made to bear their full proportion of overhead, and it renders possible the development of accounts to accord with functional responsibility. All these service control accounts (as well as operating) are charged with their full share of overhead in all its forms and they, therefore, pick up a portion of the general establishment charges as well as what are usually termed shop charges. The objection most frequently raised to this type of structure is that it involves the pyramiding of expense when, at the end, the terminal debit to production account is the same. This view seems to me to be a complete negation of the principles of cost finding and cost control especially when we reflect that, in present day industry, more money goes in overhead than in operating labour. I have thought it worth while to mention this point because it is by no means unusual to find accountants who draw a meticulous distinction between the three main elements of cost, but protest against what they believe to be an unnecessary refinement of accounting control. Objection on the ground of complexity has more substance, but the proper aggregation and application of overhead can never be anything but complex.

From the form depicted (Exhibit 13) you will see that overhead is divided into four main groups, which are further subdivided into thirty-six items. These groups are (1) shop charges variable, (2) shop charges semi-fixed, (3) shop charges fixed and general establishment charges. The classification of expense into variable, semi-fixed, and fixed is obviously for purposes of control because the variable constituents of overhead should react immediately and in approximate direct ratio to changes in volume or production load whilst semi-fixed items react only partially and usually with a lag. Items of fixed expense are, in the main, unaffected by volume of production load.

Some of the items require explanation.

Overtime premium represents the premium cost only of overtime work. The cost at rates for work performed in normal hours is charged to direct wages.

Made Up Wages. This represents the difference between the operative's earnings at day work rates and what he earned as a piece-worker. As there is a minimum wage, if the earnings at the piece-work rates are less than the day-work rates, the difference

has to be paid. This cost arises when "green" operators are being trained.

Process Handling, Stock Moving, Internal Transport. These three items have a common ground in that they all arise from moving semi-processed material from one process or department to another. The costs are compiled and disclosed separately because the functional responsibility for the services is vested in three different people. The foreman of the department moves the process stock from process to process within his own department with his own labour. Movements of stock between departments as distinct from processes are carried out either by a stock-moving squad who use runways, craneways, etc., or by road mechanical transport. These activities are controlled by different people.

Workers' Compensation. Each week the premium cost of the indemnity is charged at the rates applicable to each department and a reserve raised to meet the accruing liability.

Maintenance of Plant—Internal; Maintenance of Plant—Service. Most of the plant maintenance work is performed by the Plant Maintenance Department, but, in some cases departments carry out portion of their own maintenance. The sub-division of the expense into the two items enables the foreman to know how much of this expense he himself has incurred and how much has been incurred on his behalf by the Service Department.

"A" Tools Expenses; "B" Tools Expenses. The subdivision of tool expenses into two groups is necessary because of the different types of tools used. The groups line up with the different qualities of the tools.

Power and Light. Purchased power is transformed and converted and the charges to the departments or production centres are based on a formula derived from the relationship of rated horsepower installed in each to the total in the factory and the hours of use.

Oil Fuel. Fuel—Other (Air, Gas). These expenses are charged on a basis of measurement or by assessment.

Employees' Sick and Holiday Pay. This expense is in respect of certain operating employees who are privileged on account of length of service or some similar consideration.

Expense Materials. This item covers sundry small overhead materials which do not form a component of the finished product.

Petrol and Oils. This expense arises in mechanical transport departments only.

Rectification Work. The cost of making good or reconditioning faulty work is charged to the department where the fault arises. The responsibility for the fault is fixed by the Inspection Department.

Shop Charges—Semi-fixed. Supervision: This represents the cost of departmental or production centre management. *Clerical*: Departmental clerical costs are incurred in very few departments. Practically all cost of clerical work is charged to factory overhead (general establishment charges).

General Shop Work—Internal; General Shop Work—Service. These are what might be called housekeeping expenses and cover the cost of keeping the work shops clean and tidy. Some of the

work is done by a service squad and some by departmental labour, and here again the source of the cost is kept separate in order that the foremen may know how much they are charged by the Service Department.

Maintenance of Buildings. This item needs no explanation except perhaps, that we do not work a suspense account to stabilise the charges. The expense is charged as it accrues.

Laboratory Service. This applies only to those departments, such as the Foundry and Heat Treatment Departments, which are under technical control by the Metallurgical Department.

Shop Charges—Fixed. Depreciation of Plant: Depreciation is charged on the "straight line" method at rates which pay regard to obsolescence, wear and tear and inadequacy of the individual items of equipment in each department or production centre. For this purpose and for the purpose of the plant register, the plant is divided into 52 groups which are further subdivided into some hundreds of items. Depreciation is charged weekly as it accrues and a reserve is raised to meet the annual charge to profit and loss.

Depreciation of Permanent Tools: Permanent tools include such assets as patterns, templates, etc., and these are amortised on a formula arrived at by dividing the capital cost by the estimated units to be produced. Here also a reserve account is used.

Depreciation of Buildings. The same principle as for plant depreciation is followed. The rate charged is governed by the type of structure, and, where more than one department is housed in one building, the charge is allocated on the basis of area occupied.

Rates and Taxes. The method of allocation is as for building depreciation.

Fire Insurances. All of this expense is not strictly fixed in quality, but it is non-controllable if process stocks are kept at a reasonable level as they must be under our production planning control.

Factory Overhead — Semi-fixed; Factory Overhead — Fixed. These items include all general establishment charges which cannot conveniently be charged to the departments on any basis other than arbitrarily. Some of the expense is however, charged only to operating departments. Items in this category are salaries and expenses of Time and Motion Study Department; Production Engineer's Department, Planning Department, etc. Service departments are not charged with factory overhead which is incurred in connection with process only. The distribution of all factory overhead is made on the basis of man hours. It is, of course, not unusual to find these expenses allocated on the basis of operating wages, but in our case the disparity in wages between the various departments would result in distortion if this method were used. This disparity is caused by the employment of female labour on certain light operations..

Administrative Overhead. This is the amount of administrative expense which is charged to production and it is distributed in the same manner as is factory overhead.

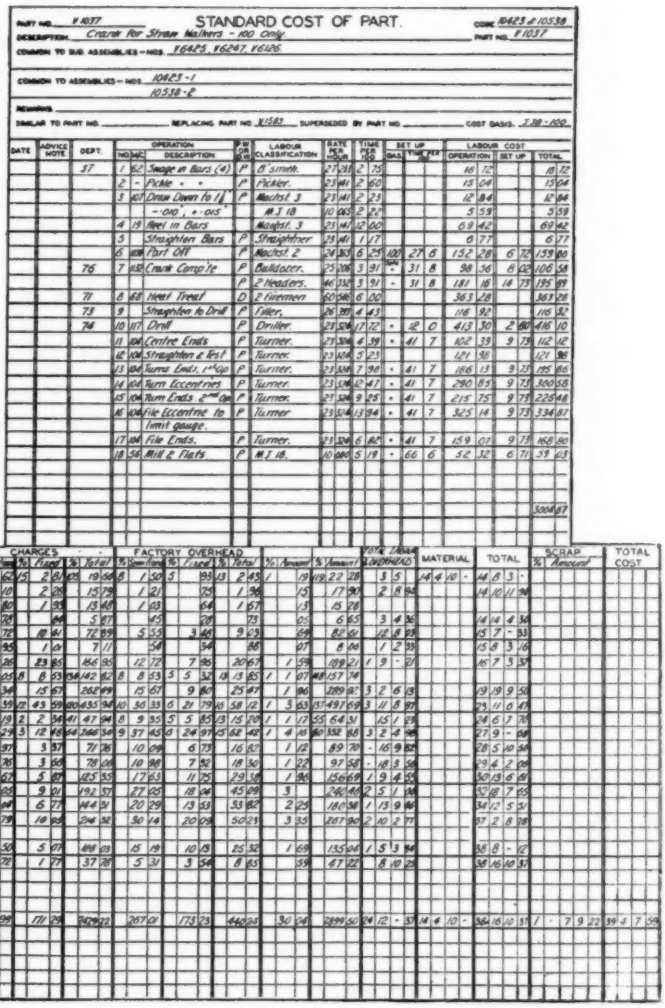
Overhead—Variations from Standard. From what I have said

with regard to variations from standard in respect of the elements material and labour, you will have seen that variations on those items are thrown up automatically and their causes are known immediately. The problem is by no means as simple with overhead. Broadly speaking, the main causes of variation in the incidence of overhead are varying volume of the production load so far as fixed and semi-fixed expenses are concerned and abnormalities of cost of variable expense items. Such abnormalities occur in items like plant maintenance, tools expenses, expense materials and rectification work, and when a variation occurs it becomes necessary to ascertain the cause and determine whether the expense is reasonable in the circumstances and is really abnormal and non-recurring. This is one of the principal duties of cost control and provides the most important field for cost research. With operating labour cost governed by an incentive plan, material under rigid control and a great proportion of overhead uncontrollable, the cost accountant's main activity must be directed to exhaustive examination of variable and semi-variable overhead and as, in a modern plant, this expense represents a substantial part of the terminal costs there is usually ample scope for the investigator and opportunity to effect reductions. A considerable portion of variable expense at Sunshine is represented by payroll cost for service functions which are performed on day-work, and this is the case in many factories. It is in this class of expense that we are able best to exercise trained scrutiny and advise management by presentation of statistics and critical commentary on the costs.

In this series of lectures this year, you have heard some excellent addresses on the subject of the influence on costs of fixed overhead on varying volumes of production and you have discussed principles and methods of treating excess costs of fixed burden. I do not propose, therefore, to enlarge on this aspect of cost accounting, and I shall only briefly outline our treatment of the problem.

As a preliminary we compiled statistics of man hours in productive departments over a period of eleven years and with these as a basis we made allowances for abnormalities and trends and established a series of "normal" production loads for the departments in terms of operating man hours. We then computed "normal" overheads on this basis and the terminal costs compiled therefrom are styled "normal" costs. The standard cost has a different basis. The overheads applied thereto are computed from the production budget framed for the period, usually twelve months, and the incidence of fixed and semi-fixed overhead will be higher or lower than that in the normal cost according to the anticipated volume of production load. The "normal" costs are used for the purposes of price determination and the standard costs for the purposes of cost control and inventory valuation. When framing the overhead budget for the purpose of the standard costs, the costs arising from surplus and idle plant are computed, and the charges thereon are debited to the manufacturing account direct, thus relieving the production account which is subsidiary to the manufacturing account and which is

debited only with the expenses at actual cost, which are constituents of the standard costs. It will be seen, therefore, that the manufacturing account is debited with costs in excess of those in respect of excess material costs such as arise from the purchase charged to the production account and the same principle is applied of commodities outside the usual sources of supply because of industrial trouble, etc.



STANDARD COST OF PART.

PART NO. V 1037 — DESCRIPTION: Crane for Straw Walkers - 100 Only — COMMON TO SUB ASSEMBLIES — NOS. V6425, V6247, V6106 — COMMON TO ASSEMBLIES — NOS. 10425-1, 10538-2 — REMARKS — SIMILAR TO PART NO. — REPLACING PART NO. V1582 — SUPERSEDED BY PART NO. — COST DATA/S. T.28-100 — CODE 10423 & 10538 — PART NO. V 1037

DATE	ADVICE NOTE	DEPT.	OPERATION NO.	M/C	DESCRIPTION	P OR S	LABOUR CLASSIFICATION	RATE PER HOUR	TIME PER 100	SET UP DAYS	SET UP TIME	SET UP REF	LABOUR COST OPERATION	LABOUR COST SET UP	LABOUR COST TOTAL
		37	1	162	Swage on Bars (4)	P	0 Smith.	2/7	2 75				18		18 75
			2	-	Pickle " "	P	Pickler.	2/3	1 60				15	04	15 04
			3	107	Draw Down to 1¼	P	Machst 3	2/3	1 23				12	84	12 84
					-010 ; -015		M 3 18	10	0 65	2	2 2		5	59	5 59
			4	19	Reel in Bars		Machst. 3	2/3	1 42	2	0 00		6	42	6 42
			5		Straighten Bars	P	Straightner	2/3	1 40	1	1 7		6	77	6 77
			6	108	Part Off	P	Machst 2	2/4	1 35	6	2 25	100 DAY	27	6	132 28	6 75	139 03
		76	7	163	Crank Complete	P	Bulldozer.	2/5	2 06	3	3 1	"	31	8	98 56	8 100	106 56
						P	2 Headers.	4/6	2 32	3	3 1	"	31	8	181 16	14 75	195 99
		71	8	48	Heat Treat	D	2 Firemen	2/0	2 00	6	6 0				363 28		363 28
		73	9		Straighten to Drill	P	Filer,	2/6	2 33	4	4 3				116 92		116 92
		74	10	117	Drill	P	Driller.	2/3	2 16	17	22 "		42	0	413 30	2 100	416 10
			11	104	Centre Ends	P	Turner.	2/3	2 16	4	4 3	"	41	7	102 39	9 75	112 14
			12	104	Straighten & Test	P	Turner.	2/3	1 48	5	5 3				121 98		121 98
			13	104	Turns Ends, 1st Op	P	Turner.	2/3	2 16	7	9 0	"	41	7	186 13	9 75	195 88
			14	104	Turn Eccentries	P	Turner.	2/3	1 48	12	17 "	"	41	7	290 85	9 75	300 58
			15	104	Turn Ends 2nd Op	P	Turner.	2/3	2 16	9	13 "	"	41	7	215 75	9 75	225 48
			16	104	File Eccentre to limit gauge.	P	Turner	2/3	1 34	9	13 "	"	41	7	325 14	9 75	334 87
			17	104	File Ends.	P	Turner.	2/3	2 16	6	8 2	"	41	7	159 07	9 75	168 80
			18	56	Mill 2 Flats	P	M 1 18.	10	0 65	5	7 0	"	66	6	52 32	6 75	59 03
																	3004 87

SHOP CHARGES % Amount	% Machine Time	% Fixed	% Total	FACTORY OVERHEAD % Machine Time	% Fixed	% Total	% Amount	VOTE LABOUR & OVERHEAD	MATERIAL	TOTAL	SCRAP %	SCRAP Amount	TOTAL COST
76 14 25	46 2 62	25 2 81	25 19 68	6 1 50	5 193	13 2 45	1 19	19 22 28	3 5	14 4 10 -	14 4 3 1 -		
11 1 83	2 10	2 26	15 79	1 21	25 1 96		15	17 93	2 18 96		14 10 11 39		
9 1 75	1 80	1 93	13 48	1 03	64 1 67		13	15 28					
4 0 75	08	08	5 83	0 45	28 0 73		05	6 65	3 4 36		14 14 4 34		
52 10 75	9 78	10 14	72 89	5 55	3 40	9 0 95	69	82 04	16 8 95		15 7 - 33		
5 0 75	95	1 01	7 11	54	34	88	07	8 06	1 2 35		15 8 3 16		
120 8 94	22 26	23 85	166 85	12 72	7 86	20 67	1 59	188 21	1 9 - 21		16 7 3 37		
80 11 7 28	15 17 05	8 53	234 42	8 53	5 5 32	13 13 65	1 1 07	48 157 74					
215 14 8	31 34	15 67	268 99	15 67	9 80	25 47	1 96	289 92	3 2 6 13		19 19 9 50		
90 32 6 96	18 65 39	23 49 59	220 435 94	10 30 33	6 21 79	16 58 12	1 3 63	37 497 69	3 11 8 97		23 11 6 47		
52 37 41	7 8 19	2 2 34	41 47 94	8 9 35	5 5 85	13 15 20	1 1 17	55 64 31	15 1 23		24 6 7 78		
53 220 55	8 39 23	5 12 98	64 260 34	9 37 45	6 24 97	15 62 42	1 4 18	80 332 96	3 2 4 98		27 9 - 08		
59 42	8 97	3 37	71 26	10 09	6 73	16 82	1 12	89 70	- 16 9 85		28 5 10 54		
64 64	9 76	3 66	78 06	10 98	7 32	18 30	1 22	97 58	- 18 3 58		29 4 2 09		
103 81	15 61	5 87	125 55	17 65	11 75	29 38	1 96	156 89	1 9 4 55		30 13 6 64		
1583 24 05	9 01	192 37	27 05	18 04	45 09	3	240 46	2 5 1 98		32 18 7 55			
119 50	18 04	6 77	144 31	20 29	13 53	33 82	2 25	180 38	1 13 9 66		34 12 5 51		
177 98	26 79	10 05	214 32	30 14	20 09	50 23	3 35	267 90	2 10 2 77		37 2 8 28		
89 45	13 58	5 07	108 09	15 19	10 13	25 32	1 69	135 04	1 5 3 96		38 8 - 12		
31 79	4 77	1 77	37 28	5 31	3 54	8 85	59	47 22	8 10 25		38 16 10 35		
2140 84	321 99	119 28	2579 20	267 01	178 23	445 24	30 06	3899 50	24 12 - 37	14 4 10 -	386 16 10 35	1 - 7 9 22	3993 7 59

Exhibit 14.

Standard Cost of Parts. The specimen now depicted (Exhibit 14) shows the form used to assemble all the elements of cost of a part and you will observe that the operation cycle is as laid down in the Master Card. These forms were put to very good use at our last stocktaking. The procedure was as follows: At June 30, when we took stock, we required the stocktakers to supply information, on stock cards, as to the quantity of each part and the operation which it had reached in the cycle. The cost of all elements up to that point of fabrication was then inserted in the card and the Powers machine gave us the value of the stock in each department a few days after the close of the year. We found that we used 35,000 stock cards. This method of stocktaking is explained in an article in the *Powers Magazine* for April, 1936, and is well worth study by those who have Powers installations.

Altering the Costs. Before concluding it is necessary to explain how the terminal costs are altered when wage rates or material prices are varied.

Because of the large number of different parts manufactured and because of the multiplicity of processes involved, it will be appreciated that the task of altering the costs when the cost of any of the elements changes is one of some magnitude, and one which ordinarily might be expected to take considerable time. We had, therefore, to evolve a mechanism which would permit of rapid adjustment of the terminal costs at current prices for materials and wages. Broadly speaking, the procedure followed in altering these elements is the same in both cases, and, therefore, I will explain what we do with respect to the operation labour costs.

Our first step was to classify and code in departments or production centres the standard hours for each class of labour employed to manufacture the various parts processed in those departments. Once the original classification is made, the alterations are attended to as they arise. The classification summary (Exhibit 15) shows the machines or implements affected by the alterations and the quantity of the particular part used in each

Production Centre Operational Classification

Part No.	Mfg. or Insp. Code.	No. per M/c.	Production Centre No. 37 Steel Mill. Operational Classification Code. 3701 Straightner Std. Hours		3702 Machinist @ Std. Hours		3703 Machinist. Std. Hours.	
			Per Pcs.	Per M/c.	Per Pcs.	Per M/c.	Per Pcs.	Per M/c.
V1052	20368	2	·46	·92	·23	·46	·74	1·48
	20418	4	·46	1·84	·23	·92	·74	2·96
V1136	20368	1	·41	·41	·21	·21	·68	·68
V1224	20362	6	·25	1·50	·27	1·62		

Alterations					
Class Code	Increases Std. Hours. Per Pcs.	Per M/c.	Decreases Std. Hours. Per Pcs.	Per M/c.	Class Code.
3726	·35	·70	·46	·92	3701
	·35	1·40	·46	1·84	
3702	·21	·21	·15	·15	3702
3701	·25	1·50	·20	1·20	3701

Exhibit 15.

MACHINE OR IMPLEMENT OPERATIONAL CLASSIFICATION SHEET.

CODE _____ DESCRIPTION _____ PRODUCTION CENTRE _____

	Operation Class Code	Hours per M/c	Old Rate	Total Cost	New Rate	Total Cost	Alterations Increase	Alterations Decrease
	0201	256.75	1/10-32	23 17 7	1/11-47	25 2 2	1 4 7	

Exhibit 16.

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Date	Period	Ledger	Particulars	Led. Fol.	Debit	Credit
1938 Oct. 31	4	A	HEAD OFFICE	77		
			To Standard Production	A		
			Machines & Implements	1		
			Wireless Parts	25		
			Petrol Chain	26		
			Punched Chain	27		
			Shafts & Axles	28		
			Bolts, Nuts & Rivets	29		
			Etc.	30		
		B	" Excess Manufacturing Expense	4		
		B	" Surplus & Idle Plant Expenses	10		
			Depreciation of Buildings	1		
			Maintenance of "	2		
			Depreciation of Plant	3		
			Maintenance of "	4		
			Rates & Taxes	5		
			Etc.	6		
		B	" Experimental or Research	8		
			Machines	1		
			Etc.	2		
		B	" Sales or Non Materials @ Cost Price			
			Store No 1	1		
			" 2	2		
			Etc.	3		
		B	" Packing Expenses	11		
			Machines N.S.W.	1		
			" Vic.	2		
			Etc.	3		
		B	" Freight & Cartage Outwards	11		
			Machines N.S.W.	1		
			Etc.	2		
		A	" Capital Expenditure	78		
			Land	1		
			Buildings	2		
			Etc.	3		
			Etc.			
			Being Transfer to Head Office of Expenditure by the Factory during Accounting Period No 4 - 1938/39			
			Factory Accountant			

Exhibit 17.

machine. On the completion of the original summary, Powers cards were punched for each part and classification for each machine or implement. The punched cards were then sorted under machine or implement code, under production centre, and under operation classification. Master cards were then punched to give information as to machine code, production centre, operation classification and number of standard hours. When alterations arise, debit and credit cards are punched in readiness for the cost alteration.

When the costs are to be altered the summary cards are sorted as shown and fresh summary cards punched (Exhibit 16). Under this procedure the summary is ready in a few hours to enable us to alter the labour costs.

Material is classified in a similar manner, and although we have over 10,000 store lines, the work involved in altering the material standards is inconsiderable.

The alteration of overhead is not quite so simple because here again the question of production volume has to be considered, but as our accounting structure provides that all elements of cost are maintained pure throughout the full cycle, and, therefore, the constituent elements of all shop expense are clearly defined and accounted for separately, the readjustment of overloads is not so complex as is the case where this rigidity of classification is not maintained throughout the full process.

Accounting Control. The whole structure involves about 4,000 sub-controls and about 450 main controls and is based on complete double entry. The ultimate factory control account is balanced with the head office books of account at four-weekly intervals and little difficulty is experienced in effecting this balance. The specimen of the journal (Exhibit 17) gives an indication of how the entries are passed back to head office, and there are usually about ten pages on the lines of the exhibit.

As some indication of the volume of work involved, it may be of interest to know that the calculating and checking of the weekly payroll entails some 100,000 calculations, and the entries preparatory to posting the ledgers total about 19,000 per week. Office performance in finalising each week's accounts is recorded for each section of the staff, and this has enabled us to eliminate potential delays and work to a definite schedule. The very considerable degree of control and speed in compilation of statistics is due, in large measure, to the extent to which we have carried accounting mechanisation, and we are in no sort of doubt as to the benefit accruing from that policy.

Taxation Section

Edited by J. A. L. GUNN, F.I.C.A.

ADDITIONAL CONCESSIONAL DEDUCTIONS

The following additional allowances are contained in the amending Commonwealth Act of 1938. These concessions apply to income derived during year ended June 30, 1938, and all subsequent income years. Taxpayers who are entitled to any of the deductions for 1937-38 should so inform the Department.

Dependent Relative Allowance

The dependent relative allowance contained in S. 79 (a) of the Principal Act has been altered to read as follows:

> "The sum of £50 . . . . where the taxpayer is a widower or widow, in respect of a female relative having the care of any of the taxpayer's children who are under 16 years of age."

As a result of this amendment, a deduction is now allowed to a widow similar to that allowed to a widower.

Payments to National Health and Pensions Insurance Fund

The following sub-paragraph has been added to S. 79 (e):

> "(iii) Payments made by the taxpayer to any fund established by any Act or State Act relating to insurance for the personal benefit of the taxpayer or of his spouse or children."

Employees (and ex-employees) will thus be entitled to a deduction in respect of their contributions, both compulsory and voluntary, under the National Health and Pensions Insurance Scheme.

The maximum allowance under S. 79 (e) is £100 in respect of the sum of the amounts paid by a resident taxpayer during the income year in respect of the insurance premiums, etc., specified in the paragraph, including the above-mentioned contributions.

An employer is entitled, under S. 51, to a deduction of payments to the above Fund, if the employees concerned are engaged in producing his assessable income. Payments in respect of private or domestic employees are not deductible. In other words, if the salaries or wages paid by an employer are an allowable deduction, then the National Insurance payments in respect of those employees are also deductible.

Payments to Queensland Unemployment Relief Fund

The new sub-paragraph also grants a deduction in respect of payments to any fund established by any State Act relating to insurance. Contributions by employees to the Queensland Unemployment Insurance Fund, and any similar funds, are also allowable deductions in the assessments of the employees. The Queensland Unemployment Insurance Fund is a fund created by Act of Parliament of that State to provide for the insurance of

unemployed workers and for other auxiliary purposes. Contributions to the fund are made compulsorily by both employers and employees.

Reciprocating States

The New South Wales Special Income and Wages Tax (Management) Act has recently been amended so as to permit of South Australia becoming a reciprocating State. Unlike other States, South Australia did not impose emergency income taxes in 1930, but substantially increased the rates of ordinary income tax. Under the present South Australian Act the assessable income of a shareholder in a company shall, if the shareholder is a resident of South Australia, include dividends paid to him by the company out of profits derived by it from any source, S. 54 (1). Persons who are not residents of South Australia are not liable to South Australian income tax in respect of dividends, even if they are paid wholly or in part out of income derived from sources in South Australia, S. 26 (b).

New South Wales has now fallen into line with Victoria, and has declared South Australia to be a reciprocating State for the purposes of the Special Income and Wages Tax (Management) Act, so far as relates to dividends derived by a person (other than a company) ordinarily resident in South Australia, commencing from year of income ended June 30, 1939.

The position, therefore, is that a resident of New South Wales continues to be liable to New South Wales Special Income Tax on all property income derived by him from sources in South Australia. With regard to dividends attributable to income derived by companies from sources in New South Wales, a resident of South Australia is exempt from New South Wales Special Income Tax in respect of such dividends derived during year ended June 30, 1939, and subsequent years.

Distributable Income of A Private Company

Under S. 103 (1) of the Commonwealth Act of 1936, "distributable income" meant "the amount obtained by deducting from the taxable income of a company all taxes, which, in the year of income, are paid under this or the previous Act, or paid in any country out of Australia in respect of income of the company which is taxable income under this or the previous Act."

As pointed out in the Commonwealth Treasurer's Explanatory Memorandum, the provisions of the 1936 Act operated inequitably in the case of a private company which carried on business operations within and without Australia, and which derived a profit from its Australian operations but sustained a loss on its ex-Australian operations, the net result of the company's trading for the year being a loss. As the Australian profit was wholly absorbed by the ex-Australian loss, it was not possible for the company to make any distribution to its shareholders out of the

Australian taxable income. Nevertheless, under the previous definition, the private company was deemed to have made an insufficient distribution of its income of the year, and was assessable accordingly to additional tax.

As a consequence, the amending Commonwealth Act of 1938 has amended the definition of "distributable income" to read as follows:

> "'distributable income' means the amount obtained by deducting from the taxable income of a company—
>
> (a) all taxes which, in the year of income, are paid under this or the previous Act, or paid in any country out of Australia in respect of income of the company which is taxable under this or the previous Act; and
>
> (b) the net loss, except to the extent to which it is a loss of a capital nature, incurred by the company in the year of income in carrying on its business out of Australia."

The above amendment prevents the inequitable operation of Division 7 in cases such as that described.

The amendment applies to assessments for the financial year beginning on July 1, 1938 (based on income derived during income year ended June 30, 1938, or substituted accounting period), and all subsequent years.

Annuity Payable out of Capital

The widow of a testator was entitled to the whole of the income of his residuary estate, subject to certain provisions in favour of his children. By a deed of family arrangement between the widow and the children, the widow was to receive a fixed income from the estate of £3,000, the surplus being surrendered for the benefit of the children. In the event of a deficiency resort could be had to the capital of the estate. In some years payments were made partly out of capital: *Held* that the payment of £3,000 was an annuity and the money representing the difference between the actual income of the estate and the higher amount paid under the deed was assessable income of the widow: *Tillard v. C. of T.* [1938], N.Z. L.R. 795.

Assignment of Leases

Section 84 of the Commonwealth Income Tax Assessment Act provides that the assessable income of a taxpayer shall include, in addition to rent, any premium received by him in the year of income. "Premium" includes, *inter alia*, any consideration in the nature of a premium, fine or fore-gift payable to any person for or in connection with the assignment by him of a lease, S. 83.

Section 88 provides for the allowance of a sinking fund deduction to a taxpayer who has paid any "premium" in respect of land, premises or machinery used for the purpose of producing assessable income.

A premium received for the assignment of the lease is included in the vendor's *assessable* income, and the unrecouped portion of

any premium paid by the vendor to acquire the lease is an *allowable deduction,* S. 85.

The net result is that where a taxpayer makes a profit on the sale of leasehold property, he is assessed to Commonwealth income tax on the profit. If, on the other hand, he sustains a loss on the transaction, the loss is an allowable deduction from any other income derived by him.

The effect of the above provisions may be illustrated by the following simplified examples:

1. On July 1, 1936, a taxpayer, A, paid a premium of £12,000 for a ten years' lease of an hotel. As the leasehold property was used for the purpose of producing assessable income, A is entitled to an annual deduction of £1,200. He sold the lease on July 1, 1939, for £14,000, payable in cash on that date. This sum will be included in A's assessable income of year ended June 30, 1940. A will be allowed a deduction for 1939-40 of £9,600, being the unrecouped portion of the premium paid by him: £12,000 — £2,400, being two years' sinking fund deductions allowed in his assessments for income years 1936-37 and 1937-38. The net effect is that A will be assessed on a profit of £4,400.

2. Assume the same set of facts as in (1), but that the premium of £12,000 was paid for a lease of a private residence. As the leasehold property was not used for the purpose of producing assessable income, A is not entitled to a sinking fund deduction in respect of the premium. A's assessable income of year ended June 30, 1940, will include the premium of £14,000 received by him on the assignment by him of the lease, and he will be allowed a deduction of the full amount of £12,000 paid by him to acquire the lease. The net effect is that A will be assessed on a profit of £2,000.

If, in the second example, the person who bought the lease from A uses the property for the purpose of producing assessable income, e.g., he converts it into a boarding house, he will be entitled to an annual deduction of £1,750, i.e., £14,000 ÷ 8. If, on the other hand, the purchaser used the property for private or domestic purposes, he would not be entitled to any sinking fund deduction in respect of the premium paid to A.

Division 4 of the Commonwealth Act of 1936 was found to be defective in that, where a lease was assigned together with other assets in consideration of a lump sum payment, and that sum was not allocated in the agreement of sale or any other document to the several assets sold, there was no provision authorising the Commissioner to determine what portion, if any, of the sale price was attributable to the lease, including the goodwill. As a consequence, the profit which the vendor might have derived, or the loss which he might have sustained, on the purchase and sale of the lease could not be taken into account in the ascertainment of his taxable income. In addition, the purchaser of the lease was deprived of the sinking fund deduction in respect of so much of the payment made by him as represented consideration for the assignment of the lease to him.

As a consequence the following subsection was added to S. 83 by the amending Act of 1938:

"(2) Where a lease is sold together with other assets the amount of the consideration attributable to the lease shall, subject to sub-section (3) of Section thirty-six and sub-section (3) of section fifty-nine of this Act, be—

(a) where a separate amount is allocated to the lease in any contract of sale or arrangement and the Commissioner is satisfied that that separate amount is fair and reasonable —the amount so allocated; or

(b) where no separate amount is so allocated or the Commissioner is not satisfied that the amount allocated is fair and reasonable—the amount determined by the Commissioner."

Section 36 (3), referred to in new S. 83 (2), provides that, in the case of a disposal sale, the value of any trading stock, live stock, etc., included therein shall be:

"(i) the market value of the property or live stock on the day of the disposal; or

(ii) if in the opinion of the Commissioner there is insufficient evidence of the market value on that day—the value which in his opinion is fair and reasonable."

Section 59 (3) provides, *inter alia*, that where any property, in respect of which depreciation has been allowed, is sold with other assets and no separate value is allocated thereto, the amount of the consideration relating to such property shall be determined by the Commissioner.

Where a taxpayer is dissatisfied with the Commissioner's determination in any of the above matters, he has the right of objection, and of reference to the Board of Review.

Income Tax in Northern Territory

In the August, 1938, issue of the Journal it was stated, at p. 33, that the Commonwealth Treasurer informed the House that the Government had decided to renew, in the first place for another twelve months, the exemption of income from primary production, mining or fisheries in the Northern Territory by a resident of that Territory.

The amending Commonwealth Act of 1938 extends the above-mentioned exemption to income so derived prior to July 1, 1947, i.e., for a further period of ten years. The Commonwealth Government decided on this course as a result of its consideration of the Report of the Board of Inquiry appointed to inquire into the land and land industries of the Northern Territory.

Recoupment of Franchise Costs

Under the Queensland Act, S. 29 (23), an allowance is granted of the annual sum necessary to recoup the expenditure agreed to be made on improvements by the owner of a franchise issued

under the Tolls on Privately Constructed Road Traffic Facilities Act of 1931. The reason for this allowance is that the improvements become, in due course, the absolute property of the Crown, and the owner is not entitled to any compensation.

By the amending Act of 1938, a new Section, 62A, has been inserted in the Commonwealth Act, which also grants an annual sinking fund deduction in respect of the amount expended on the franchise undertaking analogous to that provided for in S. 88 (2) in respect of improvements made under covenant, etc., on leasehold property.

New Section 62A, which first applies to assessments for year of tax ended June 30, 1939 (year of income 1937-38), reads as follows:

(1) Where a franchise requires that the undertaking which is the subject of the franchise shall become the property of the authority granting the franchise after the expiration of the period of the franchise without reimbursement of any of the expenditure thereon, a proportionate part of the expenditure which the owner of the franchise is required by the franchise to incur, and which he has in fact incurred, shall be an allowable deduction to him so long as he continues to be the owner of the franchise.

(2) The proportionate part of the expenditure referred to on the last preceding sub-section shall be calculated by distributing the amount of that expenditure proportionately over the period of the franchise unexpired at the date when the construction of the undertaking is completed, or, where there is no period of years fixed as the duration of the franchise, over such period as the Commissioner determines:

Provided that where any income is derived in respect of the undertaking before its construction is completed, the proportionate part of the expenditure which may be an allowable deduction shall be as determined by the Commissioner.

(3) The aggregate of the deductions allowed by this Section to any person shall not exceed the expenditure which that person is required by the franchise to incur, and which he has in fact incurred, and where in any case the aggregate of the deductions equals the amount of that expenditure no further deduction shall be allowed in pursuance of this Section.

(4) For the purposes of this Section, "franchise" means a grant by the Commonwealth or a State, or by a public authority constituted by or under an Act or State Act, whereby in consideration of the construction and maintenance of an undertaking of public utility a person is, during some limited period, authorised to collect and retain the revenue earned by that undertaking.

Taxation Question Box

Hotchpot

Question: "L.V." (Sydney) asks: Under the terms of a will, an advancement to a child during the testator's lifetime has to be brought into account, with interest, in order to determine the beneficiary's share, if any, of the estate. Is such interest liable to be included in the assessable income of the trust estate?

Answer: No. The "interest" is merely part of an arithmetical calculation to determine how the estate is to be divided amongst the beneficiaries.

Medical Expenses

Question: "W.M.M." (Adelaide, S.A.) asks: A director earns income from both personal exertion and property and for the year is subject to Federal Income Tax. His wife is also in receipt of income from property and she, too, is subject to Federal Income Tax without considering medical expenses. Her medical expenses for the year amounted to £103 and happened to be paid by accident, in four accounts, one-half by herself and the other by her husband. When deduction of the allowance is made in her income she will not be liable to Federal Tax. Are each entitled to the concessional deduction?

Supposing the whole had been paid by either one; then one would be entitled to the concessional deduction, but not the other. What line can be drawn between the two in such a case as above?

Does the importance of this Section, 79 (c) rest on the words, "Payments made by the taxpayer"? If so, then it is a simple matter to arrange payment in the above case, so that the maximum concessional deduction can be gained.

Answer: Both the husband and the wife are entitled to a deduction of "payments not exceeding £50 in the aggregate" actually made by them in the year of income. Let us assume that the payments were in "respect of any illness of or operation upon" the wife. The husband is entitled to the deduction because the payments made by him were in respect of the illness, etc., of "his spouse." The wife is entitled to the deduction because the payments made by her were in respect of the illness, etc., of "the taxpayer," i.e., the person claiming the deduction. The position would be exactly the same if the payments were in respect of any illness of the husband, because S. 79 (c) refers to "the taxpayer or his *spouse*." Spouse includes both husband and wife.

With regard to the last paragraph of the question, I regret that I cannot agree that it would always be a simple matter to arrange for a wife to pay a portion of the family medical expenses. I read the suggestion to my wife, but she seemed strangely unimpressed with the argument that if she paid some of my bills she would get a deduction in her assessment. It is so difficult to make women understand the simplest financial facts.

The Two-to-one Working Capital Ratio

By A. A. FITZGERALD.

Ratio study is a comparatively new method of financial analysis, and the full technique of the method has not yet been thoroughly worked out, in Australia at least. The logical justification for ratio analysis is unquestionable. Balance-sheet figures have no intrinsic significance; they are meaningless as criteria of financial stability unless regard is had to the relationship between the balance-sheet groups. To take the simplest illustration, a company with a total liability of £1,000 may be in a much weaker financial state than a company whose liabilities amount to ten times that amount. The important consideration is the capacity of the concern to meet its liabilities as they mature, and the usual device for measuring this capacity is the working capital ratio. The working capital ratio, or current asset ratio, as it is sometimes called, is the ratio of current assets to current liabilities.

These technical terms need a little explanation. The general principle of discrimination between current and other assets or liabilities is that assets which are realizable (and which it is intended to realize) within one year and liabilities which are likely to fall due for payment within one year are classified as current. In applying the principle, there is room for considerable variations in treatment. It would not be desirable to attempt to enunciate arbitrary rules for determining the classification of assets and liabilities in all circumstances. It is, however, desirable that whatever rules of classification be adopted in any given concern, those rules should be consistently adhered to from year to year.*

A brief consideration of the typical current assets and current liabilities will serve to indicate the nicety of the problems of classification which sometimes arise.

Amongst the current assets, cash and bank balances clearly fall within the general rule in all cases. Accounts receivable and stocks on hand are usually also included, but whether they are legitimate current assets or not depends on circumstances. Trade debts falling due for payment within usual trade terms of credit are current, instalment or hire purchase debts extending beyond one year from the balance-sheet date are not. An interesting question arises here. Logically, the instalment debts should be analysed according to due dates for payment. That portion which falls due within one year should be classified as current, that portion which falls due later than one year hence as deferred. This dissection is not customarily given effect to in the balance-sheet, and it would probably be undesirable to split an item such as this into two amounts included in different balance-sheet

*See D. L. Trouant: *Financial Audits*, pp. 7-8: "The importance of accounting principles and conventions lies not in their uniformity as between companies, but in the consistency with which they are applied by the individual company . . . ."

groups. A compromise solution is to classify all instalment and hire purchase accounts as deferred assets. In considering the working capital ratio of concerns transacting hire-purchase business, the classification in the balance-sheet of the deferred instalments is obviously an important consideration bearing upon the apparent adequacy of the ratio.

Book debts representing advances by a holding company to its subsidiaries or associated concerns, or *vice-versa,* provide another interesting problem. They may or may not be properly described as current. The determinant is the possibility of liquidation of the debt within one year, *without disturbance to the ordinary operations of the group of companies.* Usually such advances are in the nature of deferred, or even fixed, assets rather than current. If, however, they are classified as other than current, that fact will have some bearing on the working capital ratio, since the asset may represent, in part at least, a "second line of defence" which might be drawn upon in case of emergency to meet current liabilities. Similar considerations apply to advances to, or current accounts of, partners, directors or officers. It is dangerous to classify these as current assets, though the circumstances may sometimes justify it. Whether they are so classified or not, however, they should always be shown as a separate item in the group.

Stocks on hand may consist of various classes ranging from raw material, factory supplies or repair stocks to finished goods which are ready for delivery to a customer against a firm order. It is not uncommon to find the distinction drawn in the balance-sheet between the "stock in trade," i.e., goods in a saleable condition, on the one hand, and materials, supplies and stores on the other. This distinction is not, however, made primarily with a view to separating current from deferred assets. Such a separation would involve a detailed analysis of the whole of the stock, so as to permit of the inclusion in the current asset group of those stocks only which are intended and likely to be sold within one year. Here again, it is probably not desirable to split a homogeneous item into two or more items merely to satisfy an academic desire for absolutely logical classification, and stocks of all kinds will usually be found classified as current assets—a point which should not be overlooked in using the working capital ratio.

Investments in negotiable securities are apparently easily classified, but the ease is often more apparent than real. Intention is here the important consideration. If the investment represents a temporary utilization of liquid resources, the asset is current. If it arises out of a trade association with allied concerns, it is in the nature of a fixed asset, which cannot be realized without some dislocation of normal business operations. And what of the investment of a depreciation fund? Is this not logically the tying-up temporarily of resources which will, sooner or later, find their way back into the fixed asset group? If such investments

are classified as current, the working capital ratio should be higher than would otherwise be necessary for safety.

Of no less interest, though perhaps of less practical importance, is the treatment of prepayments. Frequently these are classified as intangible and not as current assets. But they certainly usually satisfy the criterion that they are realizable (in the sense of being used up and so passing into cost of current output or operations) within one year. Contrary to the more usual practice, therefore, it would seem to be not only permissable but desirable to include prepayments in the current assets group.

On the liabilities side also, problems arise which, though less numerous than those relating to assets, are of equal importance and difficulty. Bank overdrafts are theoretically callable on demand and are, therefore, generally classified as current liabilities. It is evident, however, that bank overdrafts are a more or less permanent feature of the financial structure of many stable concerns, and it would frequently be an easy matter for a concern with large investments in fixed assets to arrange, almost overnight, for deferred or fixed loans with which to liquidate the bank overdraft should occasion arise. The inclusion of a bank overdraft amongst the current liabilities may sometimes result in an apparently low working capital ratio, but in judging the sufficiency of the ratio, the circumstances should be given full weight.

Many concerns lean heavily on deposits by partners, directors, shareholders or associates for finance. It is true to say, speaking generally, that this is a risky method of finance unless the working capital ratio is high, even if the deposits are classified as current liabilities. In some instances, such, for example, as the finance of subsidiaries by a holding company, the deposits may be legitimately regarded as in the nature of fixed liabilities. Again, it is clear that circumstances should exercise a profound influence on the formation of a judgment as to the adequacy of the working capital ratio in any specific instance.

Modern practice in the construction of balance-sheets favours the inclusion amongst current liabilities of dividends which it is proposed to declare out of the profits shown by the accounts up to the date of the balance-sheet. There have been some objections to this practice on the ground that the dividends have not been declared at the date of the balance-sheet and therefore have not become liabilities. Whether they are shown on the face of the balance-sheet or not, their prospective payment has an important bearing on the financial condition of the concern, and they should always be taken into consideration, either in calculating the working capital ratio or, alternatively, in using the working capital ratio as a measure of financial safety.

These examples of classification problems are intended to be illustrative rather than exhaustive. One final point in connection with classification should be mentioned because of its vital importance. The claim is sometimes made—not often, let it be said with satisfaction, by accountants—that it does not make any

difference if a liability of a given amount is omitted from a balance-sheet so long as a compensating amount is omitted from the assets. How often, for example, is justification sought for the omission of the liability for purchases on the ground that the purchases have "not been taken into stock"? The accountant who appreciates the significance of ratio study will not fail to realize the underlying fallacy of this argument and to resist this and similar offsetting devices by which two wrongs are concealed on the assumption that they make a right.

So much for the practical difficulties encountered in classifying assets and liabilities as current. When these difficulties have been met, the calculation of the working capital ratio is simply the calculation of the relationship between current assets and current liabilities, expressed as a ratio, a percentage, or as so much in pounds, shillings and pence of assets for each £1 of liabilities.

What use can legitimately be made of the working capital ratio when it has been calculated? Can it be used as a measure of financial safety *by reference to some fixed yard-stick?*

Here are two statements which are typical of many similar statements in accountancy text books.

(a) A business seeking credit should have a working capital ratio of at least two to one: in other words, its current assets should be equal to at least twice its current liabilities.

(b) The working capital ratio should never be less than 2 to 1. If it is less than that, it is a sign of danger and may indicate over-trading.

The second is much more positive than the first, but even the first has an air of finality which, on the face of it, does not appear to be warranted by any principle save that of "thinking of a number." Any business concern which has a working capital ratio of less than two to one is beyond the pale so far as credit worthiness is concerned. But why two; why not three? Or two and a half? The plain fact is that the vaunted two-to-one ratio is a mere rule-of-thumb standard, the only justification for which as a yard-stick would be experience.

Let us submit the question to the test of experience. The following table shows the working capital ratios shown in the recently-published balance-sheets of twenty Australian companies. The companies have been selected at random; they are all concerns whose names are almost household words in Australia, and almost without exception their reputation for financial stability is beyond reproach. And their balance-sheets are so unambiguous that the calculations of working capital ratios for the published figures are not susceptible to serious error. Apart from those considerations, no attempt has been made to select examples which either prove or disprove the case for the two-to-one ratio criterion. It is reasonable to assume that the twenty companies are a fair sample of Australian businesses. Here are the figures:

Working Capital Ratios of 20 Australian Companies as shown by Balance-sheets Published during 1938

Company. Type of Business.	Current Liabilities. in £'000's.	Working Capital Ratio (Current Assets per £1 of Current Liabilities).
1. Wholesale softgoods	£465·1	£2 14 3
2. Wholesale softgoods	280·0	3 4 9
3. Manufacturing	55·6	1 15 6
4. Manufacturing	192·3	2 16 5
5. Manufacturing	104·5	3 12 0
6. Manufacturing	231·1	1 5 10
7. Manufacturing	271·9	3 0 5
8. Timber Merchant	76·7	7 16 6
9. Brewery	1,410·8	1 14 6
10. Brewery	212·5	2 3 8
11. Wholesale Distributor	287·4	1 15 11
12. Wholesale Distributor	491·4	1 1 5
13. Wholesale Distributor	223·6	3 12 5
14. Newspaper	270·7	2 2 11
15. Newspaper	126·8	1 0 2
16. Department Store	86·7	2 12 8
17. Department Store	103·5	1 15 6
18. Department Store	63·6	2 5 6
19. Department Store	977·5	1 16 3
20. Chain Novelty Store	177·1	17 0

The figures effectively dispose of the idea that a two-to-one ratio is a satisfactory criterion of financial stability, or, indeed, that there is any standard ratio which can be applied indiscriminately to all types of business and in all kinds of circumstances. Of the twenty companies in the table, nine have a working capital ratio of less than two to one, and the ratios range from 17/- to £7/16/6. The two extremes are due to peculiar circumstances surrounding the operations and financial structure of the two companies concerned, but even if these extreme cases are ignored, there is no suggestion of approach to uniformity in the figures of the other eighteen companies. Nor do the figures suggest even that any standard ratio can be legitimately used within one class of business. The differences between the ratios of the several manufacturing concerns or between those of the department stores suggest, on the contrary, that circumstances are a more potent factor in considering ratios than are types of business.

It may be that it would be possible to formulate some general rules for discriminating between various classes of business, as for example, that a timber merchandising business should show a higher working capital ratio than a wholesale softgoods warehouse, and that a department store can work safely on a lower ratio than a manufacturing concern. But before statements of this nature could be validly made, it would be necessary to examine the accounts of very many more enterprises than our sample contains. Research of this nature might even lead to the development of characteristic (*not* standard) ratios for different

types of industry, though the utmost that could be said, even after extensive investigation, would probably be that a satisfactory working capital ratio for a given type of business should fall within certain limits. This, of course, would be a vastly different thing from laying down an arbitrary standard for general application.

In the absence of such detailed investigation, little use can be made of working capital ratios as absolute measures of financial stability. Are working capital ratios therefore useless, or is there some way in which they can be usefully applied? The answer to that question is one that every accountant should recognize and bear constantly in mind. Ratios, like all other accounting data, should be used as an aid to the formation of judgments and not as a substitute for judgment. It is for the management of a concern to judge whether, in the light of all the relevant circumstances, the working capital ratios which the accounts disclose from time to time are satisfactory from the standpoints of financial safety and economical use of working capital. If ratios are to be compared with standards, the standards should be set up—like all other financial and operating standards—after a complete and scientific examination of the relevant circumstances. In other words, standards should be determined internally and not by reference solely to what other concerns are doing. That applies to operating standards no less than to financial standards —to "those collection letters" as well as to the two-to-one working capital ratio.

But there is another use to which the working capital ratio may be put, and this is certainly the use which is least susceptible to misuse. That is, to watch and report upon the *trends* in the ratio. It is one thing to say that a given ratio is or is not satisfactory; it is quite another, and a much more justifiable use of ratios, to say that the ratio to-day is more or less satisfactory, as the case may be, than it was a year ago.

To illustrate this point from our table, let us examine the changes that have taken place in the past year in the working capital ratios of some of the companies. Selecting, again at random, let us take companies 5, 15 and 19.

Working Capital Ratio

Company.	1938 Balance-sheet.	1937 Balance-sheet.
5	£3 12 0	£3 18 2
15	1 0 2	1 14 3
19	1 16 3	1 13 0

In two of these instances, the ratio has deteriorated; in the other it has improved. It is a legitimate use of the ratio to say that the *trend* in companies 5 and 15 is unfavourable, while that in company 19 is favourable. It is *not* a legitimate use to say that companies 15 and 19 are in an unsatisfactory financial condition because their working capital ratios are less than two to one. By watching trends and seeking for the explanation of them and the means of correction when necessary, the accountant

performs his highest function. By applying rule-of-thumb standards, he encourages managers to adopt a contemptuous attitude towards the achievements of the theorist in accountancy.

Articles in Overseas Journals

The Accountant

November 26, 1938: Leading article on "Cash at Bank," Its Treatment in the Balance Sheet; Hotel Accounting and Control, by C. H. Aveyard; Business Organisation and the Accountant—IX by R. H. Coase; The Changing Outlook of Industrial Accounting, by P. D. Leake.

December 3, 1938: Leading article on Insurers, Insured and Their Advisers; Business Organisation and the Accountant —X, by R. H. Coase.

December 10, 1938: Business Organisation and the Accountant —XI, by R. H. Coase; Company Law, by Prof. John Loudon.

December 17, 1938: Leading article on Accounts and Income Tax; Business Organisation and the Accountant—XII, by R. H. Coase; Other Auditing and Advisory Work, a paper prepared for the International Congress by E. Casselton Elliott.

December 24, 1938: British Monetary Policy, by R. Brinley Thomas; Other Auditing and Advisory Work (continued from previous issue).

The Journal of Accountancy

December, 1938: Income Divorced from Reality, by James L. Dohr; Consolidated Financial Statements, by Edward A. Kracke, a paper presented at the International Congress; Methods of Computing Costs, and Control of Prices by Public Authorities, by John F. Forbes, a paper presented at the International Congress.

Accountancy

December, 1938: Accountant's Right to Retain Documents; Some New Hire Purchase Problems; Statistics in Municipal Finance and Accountancy.

The Canadian Chartered Accountant

December, 1938: Some Elementary Aspects of Budgetary Control, by C. N. Knowles; The Open Market Operations of the Bank of Canada, by A. F. W. Plumptre; A Method of Recording and Checking Freight, by H. W. Brown.

The Accountants' Magazine

December, 1938: Hotel Book-keeping, by W. F. Taylor; The Characteristics and Functions of a Professional Accountant, by Albert Crew.

The Accountants' Journal, Wellington, N.Z.

December, 1938: Some Observations Concerning Mechanised Accounting, by R. M. Kay; The Auditor Does Not Do His Duty by Qualifying His Certificate.

January, 1939: Retail Store System, by W. G. Cain; Form and Contents of the Balance Sheet.

The Accounting Review

September, 1938: The Relation of Function to Principles, by A. C. Littleton; The Corporate-Entity Fiction and Accounting Theory, by George R. Husband; Non-purchased Goodwill, by George T. Walker; The Practitioner's Responsibility for Accountancy Education, by R. B. Kester; Depreciation as a Function of Revenue, by Oswald Nielsen; Consolidated Reports, by H. W. Bordner.

Publications Received

Hints for Young Solicitors and Articled Clerks. Sir Roger B. Gregory and M. F. Tweedie, Revised by L. J. D. Bunker. Butterworth & Co., London, 1938. Pp. vi. + 56. Price, 3/3.

This little volume is intended "to provide young solicitors with just those suggestions which would be likely to help them in the practice of their profession, by telling them how and what to do (or not to do) next." It contains many hints which would be equally valuable to young practising accountants or their clerks, particularly in those chapters which deal with professional ethics, costs, office organisation and relations with other professions. The last mentioned chapter is particularly noticeable for the recognition of the fact that "poaching" on the field of other professions cuts both ways. "Solicitors cannot expect to have a preserved field of work if they themselves poach, nor can they expect to retain scope for work if they fail to make themselves efficient in carrying out that work."

Correspondence

THOSE COLLECTION LETTERS

The Editor, *The Australian Accountant*

Dear Sir,—Several months ago, the matter of losses by bad debts was discussed in the Journal.

It may be of interest to some readers to learn that one company with which I am associated, with a gross turnover slightly exceeding £600,000 for the year, made a loss by bad debts amounting to £326, which is ·053, or less than 1/1 per £100 of turnover.

The company has a very large number of debtor accounts, which are thoroughly representative of the community, and I am satisfied that this result has been achieved by careful and methodical credit control.

Yours faithfully,

"AUDIT."

The Size of the Business Unit

By W. PREST, M.A.

A Lecture to the Commonwealth Institute of Accountants, Victorian Division

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The subject on which I have been asked to speak is one which lies in the too little explored borderland between economics and accountancy. It does so, because it is scarcely worth while discussing the size of the business unit without reference to its efficiency, and that introduces questions of costs and profits. The first and the principal topic I propose to discuss is the extent to which the efficiency of the business unit depends upon its size. The second topic is the tendency in many industries for the business unit to expand in size. The third topic is the question of who is entitled to control and direct the large scale business unit.

I

Before proceeding to discuss these three questions, certain preliminary difficulties of definition and measurement must be referred to. In the first place we must make clear what we mean by "a business unit." To-day business is mostly conducted by legal entities known as joint stock companies, but a single business unit such as the Broken Hill group or Imperial Chemicals may include many joint stock companies, all legally distinct, but linked together and brought under common direction by means of holding companies and interlocking directorates. Imperial Chemical Industries, for example, is said to embrace at least 50 subsidiary companies and 14 sub-subsidiaries. Thus the term "business unit" must be sufficiently comprehensive to embrace more than one joint stock company where such companies are subject to common ownership and management. On the other hand, a "business unit" is not constituted by a mere agreement between a group of companies to pursue a common policy, even when such an agreement is expressed in the form of a legal contract. Agreements regarding prices, terms of sale, markets, etc., do not in themselves involve a complete and permanent surrender of initiative and independence. Each participant is free to go his own way in all other matters except those specified, and he is not bound to renew the contract. Thus "the business unit" is a purely economic conception and it cannot be identified with any legal form. It is generally something wider than a joint stock company, and something narrower than a trade association. Furthermore, "the business unit" must be distinguished from the establishment in which the actual technical process of production is conducted. A single business unit may operate numerous branch factories, and in distribution and finance two of the most characteristic modern developments are the appearance of the chain-store and branch banking. The German census of 1925 revealed that of 61,003

firms, 45,634 had one branch, 7,318 had two branches, and 8,051 had more than two branches. Thus the business unit cannot always be identified with a technical unit any more than it can be identified with a legal unit. It is unfortunate that most of our industrial statistics relate to establishments and factories and consequently tend to under-state the size of the business unit.

In addition to these difficulties of definition, the "size" of a business unit is not easily measurable. In some industries, such as coal-mining, brick-making and brewing, output is sufficiently homogeneous to permit of physical measurement. In many industries, however, the variety of sizes and shapes and styles of the finished article is so wide that output cannot be measured in physical units. In such a case output may be valued in terms of money and businesses may be classified according to the magnitude of the net value of output as revealed by the Census of Production. Such a classification, however, might be misleading, because firms tend to specialise on different varieties of an article, e.g., some automobile manufacturers specialise on high-powered, expensive models, others on low-powered popular models. Hence comparisons of the *value* of output will only reflect the *physical volume* of the output of firms in the same class of trade. For this reason the number of persons employed is often a better measure of the size of a business, than value of output. Labour, however, is only one of the factors of production. Some firms use much labour and little capital, i.e., they manufacture by hand processes. Other firms in the same trade may use much capital and little labour, i.e., they manufacture by machinery. Thus a comparison of the labour employed by different firms may give an impression of their respective size very different from that which would be given by a comparison of the capital equipment used. Unfortunately, it is even more difficult to measure capital equipment than it is to measure output. In most industries it is possible to compare the horse-power of engines installed in various plants, but this, of course, is only a very incomplete indication of their productive equipment. A more trustworthy measure is available in a few industries, e.g., textiles, where the number of looms or spindles in different mills can be compared. In Australia we have available for each year comprehensive figures for the value of buildings, plant and machinery in the various industries, but an attempt to compare the values given to the productive assets of different firms would involve pitfalls which I am sure do not need explanation to this audience.

It will be realised that considerable difficulties are encountered in measuring the size of business units. It may finally be questioned whether business units should be compared on the basis of the size of their actual output, or on that of their normal productive capacity. The latter measurement is relevant if the object is to relate "size" with "efficiency," for costs per unit of output are almost certain to be inflated if an enterprise is worked above or below its normal capacity in consequence of trade fluctuations. The discrepancy between actual output and productive capacity is

likely to be especially wide in the case of firms which employ a large complement of fixed capital. Since some firms employ more fixed capital than others (even to produce the same normal output), their relative costs will depend on whether the comparison is made in a normal or an abnormal year. Actual output may depart widely from the normal output, and even the number of persons employed will tend, at least in part, to fluctuate with actual output. In fact, employment statistics may tend to indicate the actual output of some firms, and the productive capacity of others.

The figures which are quoted below relate mainly to the number of persons employed in factories, and they should be interpreted in the light of the qualifications set forth above. Having made these provisoes and defined our terms, we can now proceed to discuss the first of the topics suggested at the outset.

II

I propose to discuss three aspects of the relationship between the size and the efficiency of the business unit: (1) the reality of the so-called economies of large scale production, (2) the notion of the optimum firm and the co-existence of large and small businesses in the same industry, (3) the relationship between differences in size and differences in costs, or profits.

1. *The Economies of Large Scale Production*

Under this heading we have to consider the theory that the economies of large scale production are limitless, so that the largest firm is necessarily the most efficient. Belief in the economies of large scale production is not confined to those who set examination papers in economics. It was very wide-spread in the immediate post-war era, and formed the basis of the Rationalisation Movement. Prominent among the megalomaniacs of that period was Henry Ford. His advice to the little man was "to get big," and in 1926 he declared that "it is inevitable that the business of the country shall be done by very large companies." Whether he still holds the same opinion after the chastening experience of the Great Depression I cannot say.

It has often been remarked that if a large firm is *necessarily* more efficient than a small one, then it would seem that as soon as the size of any one firm exceeds that of its competitors it will be able to cut them out, and the process will continue until every industry is monopolised by the firm which first gets ahead of the others. In some industries it appears true that the economies of large scale production are incompatible with the continued existence of competition. Notably in the supply of gas, water and electricity, and certain branches of transport, efficient operation would be impossible if there were competing agencies of supply operating in the same area. Such industries, however, are not numerous (they are generally regarded as "public utilities") and it is probably more common to find industries, like baking or the repair of motor cars, comprised of so many small units that it is

difficult to believe that there can be any advantage at all in large-scale operation. There are other industries, like the manufacture of motor cars or iron and steel in Europe and U.S.A., in which the advantages of large-scale production appear to be sufficiently strong to lead to the growth of a few large firms, but not strong enough to enable a single business unit to monopolise the whole trade.

TABLE I

PERCENTAGE OF ALL EMPLOYEES IN PLANTS EMPLOYING MORE THAN 500 PERSONS

Industry	*U.S.A. 1929*	*Gt. Britain, 1930*	*Germany 1925*
	%	%	%
Iron and Steel	86·2	75·8	74·7
Automobiles	86·3	71·2	66·5
Electrical Engineering	68·6	73·9	61·2
Railway Engineering	52·3	67·3	73·5
Chemicals	50·0	41·3	50·4
Wool	43·7	35·7	32·9
Boots and Shoes	29·1	26·1	21·5
Bakery	8·0	13·0	7·7

TABLE II

AUSTRALIAN MANUFACTURING INDUSTRIES EMPLOYING OVER 10,000 PERSONS

Average Size of Factories, 1935-36

Industry	*Average No. of persons employed*	*Average h.p. of engines installed*	*Average value of plant and machinery*
GROUP I	Persons	h.p.	£
Railway & Tramway Workshops	223	328	43,841
Wool-worsted	210	370	35,574
Iron and Steel	41	260	14,999
GROUP II			
Motor Bodies	67	37	2,081
Hosiery	50	20	5,451
Boots and Shoes	54	18	2,436
Engineering	22	31	3,071
Printing and Bookbinding (not newspapers)	15	12	2,814
Sawmills (country)	11	33	1,753
GROUP III			
Shirts and Underclothing	37	6	824
Furniture	13	18	661
Bakeries	7	5	757
Tailoring	22	2	283
Dressmaking	17	1½	188
Motor Repairs	5	3	370

It would appear from these considerations that the advantages of the large scale business unit depend largely on the nature of the industry. Undoubtedly the technical characteristics of each industry influence the size of factories. The first of the accompanying tables shows how, in U.S.A., Great Britain and Germany, the proportion of persons employed in large factories (i.e., employing more than 500 persons) varies from over 60% in the iron and steel, automobile and engineering industries to less than 10% in the baking trade. The second table relates to the larger Australian industries, and attempts to arrange them in three groups according to whether the average size of the factory is large, medium or small. It would seem from these two tables that large factories are most common in those industries where the technical process of manufacture involves extensive mechanical equipment. In an industry like iron and steel a large blast furnace is cheaper to operate than a small one, but in the tailoring trade a large factory differs from a small one only in the number of sewing machines installed, and a mere multiplication of the number of machines cannot be expected greatly to reduce the costs of manufacture.

The very infrequency of large factories in many industries creates the presumption that large scale technical methods have no superiority in such industries. Sometimes, of course, entrepreneurial ability is capable of extending an enterprise beyond the limits imposed by technical conditions, by the opening up of branch establishments, or by striking out into new fields of activity and integrating the production (or distribution) of finished goods with raw materials or with other finished goods. This phenomenon is clearly illustrated in the field of retail trade by the growth of the chain store and the department store. Even the size of the individual establishment or factory, although basically dependent on the prevailing technical character of the industry, may be strongly influenced by the ability of the man who runs it. Nevertheless, the large business creates problems of its own, and the difficulty of co-ordinating the activities of the various departments and branches becomes greater as it grows in size. There is reason to believe that it is this consideration which sets a limit to the growth of many businesses. In some industries, of which rail and sea transport is perhaps an example, technical considerations often seem to dictate a scale of enterprise so large that organisation becomes a task of the greatest difficulty, so that technical efficiency has to be sacrificed for managerial efficiency.

The conclusion which emerges from the preceding paragraphs is that in most industries definite limits are set by technical and managerial considerations to the possibility of reducing costs by the substitution of a few large business units (or one only) for many small ones. Business units may, however, be too small for efficient operations as well as too large. In this limited sense the economies of large scale production are a reality. It follows that for every business there is a certain scale of operations below which the economies of large scale arise, but beyond which *dis*economies arise. It is this consideration which has led to the

TABLE III

AUSTRALIAN MANUFACTURING INDUSTRIES EMPLOYING OVER 10,000 PERSONS, 1935-37

Industry	*Percentage of all employes in:*		
	Establishments employing less than 50 persons	*Establishment employing 51-100 persons*	*Establishments employing 101 or more persons*
	%	%	%
Wool and Worsted ..	4·7	4·4	90·9
Railway and Tramway Workshops	5·4	2·8	91·8
Motor Bodies	14·1	7·9	78·0
Iron and Steel	20·0	13·2	66·8
Boots and Shoes	20·6	19·8	59·6
Hosiery	26·2	12·4	61·4
Engineering	41·8	18·3	39·9
Shirts and Underclothing	42 4	25·7	31·9
Tailoring	53·6	19·5	27·5
Printing & Bookbinding	60·9	17·2	21·9
Furniture	65·4	16·5	19·1
Dressmaking	69·8	21·1	9·1
Sawmills	75·7	13·6	10·7
Bakeries	76·4	11·7	11·9
Motor Repairs	88·7	10·9	2·4

idea that there exists an "optimum" size for every business unit, at which costs of production are at a minimum.

2. Large and Small Businesses

The notion of the "optimum" is certainly a great advance on the crude ideas of the relationship between size and efficiency which have hitherto been prevalent, but it would be a mistake to interpret it as implying that there exists in every industry a sort of standard, archetypal size to which every firm should approximate, if it is to be operated efficiently.

In most industries there is not only room for more than one firm, but there is also room for firms of very different sizes. We find large firms existing side by side with small firms, and large factories side by side with small ones. This situation is illustrated for the most important Australian industries by Table III. Even in industries where the average size of factory is large, like wool and worsted, a small percentage of the employees work in establishments employing less than 50 persons. On the other hand, in industries where the average size of establishment is small, like motor car repairs, dressmaking or baking, there are some factories employing over 100 persons.

At first sight it may appear difficult to reconcile these facts with the theory of the "optimum." In so far as technical considerations set a limit to the expansion of individual firms, the limit will be fairly uniform for all firms in the same class of trade.

This will not be true, however, of the limit set by managerial difficulties, for every business man varies in his ability to cope with such difficulties. Business may be expected to differ in size, just because the men who run them differ in ability. The economies of large scale production ultimately rest upon an essentially human basis. There is no uniform "optimum" size for each industry, but the optimum will be large for the able men and small for the less able, even within the same industry.

Of course, this is not the only explanation of the co-existence of large and small firms. It may be that the statistical definition of an "industry" includes firms catering for different classes of trade. The class of trade may dictate the technique and so the size of firm, e.g., quality goods are often produced by hand in small workshops instead of by machinery in large factories. Thus the "optimum" size will vary according to the class of trade.

Moreover, even in the same class of trade entrepreneurs of equal ability will not all enjoy equal access to supplies of raw material, labour or even financial resources. Firms which experience difficulty in these respects will be smaller than those which are more fortunately circumstanced. The size of firms also depends on the extent of the available market. If the market is restricted expansion will involve either price cutting or additional marketing expenditure (e.g., on delivery or advertising). Many retail stores occupy sites where the available custom is limited in this manner. Such firms will necessarily be smaller than those whose markets are less narrowly circumscribed by such barriers.

I do not wish to evaluate the relative significance of these various explanations of the existence of large and small firms in the same industry. It is sufficient to point out that the "optimum" theory does not lead to the conclusion that all firms in the same section of an industry ought to be of the same size. Because Henry Ford or Lord Leverhulme can hold together a vast organisation, it does not follow that their competitors can, or should, attempt the same.

3. *Differences in Costs*

As accountants are well aware, there are wide differences in the average costs of different firms. Some investigators have sought to prove that high costs are associated with small size, and that reorganisation which aims at eliminating the small firm will therefore increase the efficiency of industry.

Some years ago the American Federal Trade Commission made a series of investigations into the relationship between the size of plants and the cost of production in certain industries, including flour-milling, baking and petroleum. In the baking industry it was found that the average cost (exclusive of ingredients) fell from 3·83 cents per lb. for small plants to 3·25 cents per lb. for large plants. Before any conclusion can be drawn from such figures it is necessary to know whether the small firms enjoy high average prices as well as high average costs. This will

be so if the small firms specialise on the provision of quality and service, instead of cheap mass production and the "cash and carry" principle. Comparison of costs and profits may show that one section of the "industry" is more profitable than another, but that may have nothing to do with the size of the businesses in each section. In other industries, especially mining, some firms operate under very unfavorable natural conditions, at high costs, but sell at high prices in a sheltered local market. Such firms are necessarily small because their market is so restricted. A good example is to be found in the British coal mining industry, and in the fourth table I have reproduced some statistics relating to that industry. These statistics were compiled by the famous Samuel Commission in 1925, and purported to show that the large firms were more efficient than the small ones. It will be observed that, although the average costs of the smallest businesses were three shillings per ton more than those of the largest businesses, the average proceeds (prices) were at least

TABLE IV

BRITISH COAL INDUSTRY, 1925

Annual output	*Undertakings*	*Cost: Average per ton*	*Proceeds: Average per ton*	*Profit (+) or Loss (—): Average per ton*
Thousand tons	Number	shillings	shillings	shillings
5 to 200 .	307	20·2	19·0	—1·21
200 to 400 .	126	19·2	18·4	—0·78
400 to 600 .	72	18·0	17·9	—0·14
600 to 800 .	28	17·8	17·6	—0·24
800 to 1000 .	20	17·7	17·5	—0·13
1000 to 2000 .	42	17·5	17·8	+0·28
Over 2000 . ..	8	17·1	17·4	+0·28

NUMBER OF UNDERTAKINGS IN EACH SIZE GROUP OPERATING AT VARIOUS MARGINS OF PROFIT OR LOSS

Annual Output: Thousand Tons	Margins of Loss per Ton					Margins of Profit per Ton				
	Over 7/-	5/- to 7/-	3/- to 5/-	1/- to 3/-	Less than 1/-	Less than 1/-	1/- to 3/-	3/- to 5/-	5/- to 7/-	Over 7/-
5 to 200	28	16	39	73	50	33	48	9	5	6
200 to 400	2	5	13	39	28	10	14	14	1	
400 to 600			2	25	15	14	12	44		
600 to 800				9	8	5	4	2		
800 to 1000				6	8	2	2	2		
1000 to 2000			2	10	6	8	15		1	
Over 2000				1	3	1	3			

1/6 per ton more. The difference in profit (or loss) between the large and the small businesses was, therefore, substantially narrower than the difference in costs. Moreover, a close examination of the statistics shows that although some of the smallest firms were making the highest losses, others of them were making the highest profits. The bottom part of the table shows that eleven of the smallest businesses were making profits of over 5/- per ton. Thus even the calculation of average profit or loss for each size group (in the last column of the top part of the table) is misleading, for the coefficient of correlation between size and profit (or loss) would not be high.

This example shows how difficult it is to draw conclusions about the relative efficiency of large and small firms from their average costs. It has already been pointed out above that some firms are small on account of the narrowness of their markets; costs of production are often high for the same reason. In so far as differences in cost cannot be explained in these terms, it is doubtful whether they can be associated in any way with differences in size. This is not the place to investigate further the reasons for differences in the costs and profits of competing firms. Suffice it to remark that such differences do not in themselves constitute an adequate justification for the introduction into an industry of a scheme of reorganisation designed to eliminate the high cost firms.

III

The forces determining the size of the business unit that have been discussed in the preceding section do not continue to operate indefinitely at the same pressure. They are all subject to the influence of historical processes, the cumulative effect of which has been in the past, and will probably continue to be in the future, an expansion in the size of the business unit. There have been occasions in some industries when the business unit has grown at a spectacular rate. Such occasions occurred in the textile industries at the beginning, and in the iron and steel industry at the end, of the nineteenth century. More recently the same phenomenon has been witnessed in the clothing trade, the American meat industry and the automobile industry. Nevertheless, in most industries the average size of the business unit increases gradually and unobtrusively. Thus in Australia the number of factories employing over 100 workers rose from 40·75% of all factories in 1930-31 to 44·42% in 1934-35, and to 46·00% in 1935-36. This increase in the proportion of large factories is no doubt partly due to the revival of trade, but it probably also represents a long run tendency for business units to grow larger.

In many industries the growth in the size of the business unit is due to the adoption of mass-production methods as a result of technical invention and progress. It was the invention of the steam engine which originally led to the factory system in the cotton industry, and the increasing use of power machinery has been accompanied by the extension of the factory system to other

industries such as clothing manufacture, flour milling and laundering. This growth in the scale of technical operations makes larger business units not merely desirable but necessary, if maximum efficiency is to be attained. At the same time the scope within which a single business man's organising ability can function has been immensely widened. It remains true, of course, that the great business man is born, not made; but attempts have been made to reduce the art of management to a set of systematic rules based on applied psychology. More important than "scientific management" in this narrow sense, however, are the scientific devices which enable the modern business man to achieve feats of organisation which would have seemed beyond human power a few decades ago. Few inventions have been of more significance than the typewriter and the telephone, the dictaphone and the comptometer. Their importance, in conjunction with shorthand, can best be appreciated by reference to the career of George Hudson, known to his contemporaries of less than 100 years ago as "the Railway King" on account of the wide interests he had acquired in the then newly founded British railway companies. Every item of his vast correspondence had to be written out in long-hand and it was necessary to run a special train whenever he wanted to make personal contact with his associates in other parts of the country! It is not surprising that he failed to hold his "kingdom" together, although it was much smaller than the great organisation over which Lord Stamp now presides. Finally, the task of management has been made easier by modern accounting systems, and particularly by the development of cost accounting, which enable the business man to measure the efficiency of every branch of his organisation much more accurately than was formerly the case. In most industries the result of these factors has been an increase in the "optimum" size of the firm. At the same time the continual improvement in transport facilities and the wider markets that result therefrom, make possible the expansion of many firms that were previously unable to attain the "optimum" size. This is particularly evident in retail trade where modern transport has created city shopping centres and so facilitated the rise of the department store. Thus the development of manufacturing and managerial technique increases the "optimum" size and the development of transport makes the "optimum" size more easily attainable.

A potential increase in the relative efficiency of large business units, however, does not necessarily imply that the amalgamation of existing firms will lead to reduced costs and increased profits. The plant and equipment of firms that have hitherto competed with one another is likely to differ in extent, situation and layout, etc., from that which would be ideal if the various firms had been operated as a single unit from the outset. Thus an amalgamation will be faced with the choice of either scrapping and replacing the plant it acquires, or foregoing possible economies. It may well be that the interest on the capital cost of scrapping and replacement (even where physically possible) will exceed any economies

that could be expected to result therefrom. This has often been the experience of railway and coal mining amalgamations. Thus, although the "grouping" of the British railways in 1921 has effected substantial economies, no one can doubt that the railways could be run at even lower costs to-day if each system had been planned as a unit from the start. Many tracks would follow different and easier routes and some would never have been built, but it is cheaper to shoulder the burden of these extravagances than to attempt complete reconstruction. Apart from the limited possibility of effecting economies, the process of amalgamation is often carried further than would be justified by considerations of efficiency in the hope of securing higher prices by monopolisation. In the long run such a hope is generally doomed to disappointment and often the only result is that additional costs are incurred owing to the unwieldy size of the organisation. In addition, an amalgamation which aims at monopoly is generally over-capitalised owing to the impossibility of buying out competitors except at excessive valuations.

In view of these considerations it is not surprising that many amalgamations have a disappointing record. An investigation of the annual earnings of 35 amalgamations formed in the United States during the years 1893-1904 inclusive, showed that the earnings of the year prior to amalgamation exceeded the earnings of the year immediately subsequent to amalgamation by 18%, and of the tenth year after amalgamation by 22%. Such evidence, however, does not prove that larger business units are undesirable or unattainable. Large business units can be created in expanding industries without amalgamation. When amalgamation is a necessary part of the process of growth, it is not always failure, unless, as explained above, the technical conditions are unfavourable, or the process is carried too far.

IV

My concluding remarks will be devoted to the significance of the large business unit from the standpoint of the problem of industrial control.

To-day the capital of nearly all large businesses, and of many small ones, too, is owned by joint stock companies. In legal theory the directors of a joint stock company are held to be shareholders, elected by and responsible to their fellow-shareholders. The control of industry is thus held to rest ultimately with those who bear the risk of enterprise. It is doubtful whether this theory any longer fits the facts of "big business."

It has long been customary for the capital of a company to be divided into preference and ordinary shares, voting rights being confined to the latter. Such discrimination seems to confirm the above theory, for in return for his surrender of voting rights the preference shareholder is given—or promised—a fixed dividend, and he no longer bears the risk of enterprise in the same sense as the ordinary shareholder. In recent years, however, discrimination between shareholders in respect of voting power has been

carried much further by the device of "weighted" voting rights. Thus in 1927 the Margine Union Ltd. (subsequently merged in Unilever Ltd.—the great Anglo-Dutch soap, oil and margarine combine) issued 1,500,000 ordinary shares of £1 each, every ten shares carrying one vote, so that the total voting strength of the holders of £1,500,000 of capital was 150,000 votes. At the same time the company issued 2,000,000 deferred shares of 1/- each, each share carrying one vote, so that the voting strength of the holders of £100,000 of capital was 2,000,000 votes. Such a device concentrates the legal title to the control of an enterprise in the hands of a small minority of the shareholders. The process can be carried further by forming a holding company to acquire that part of the capital of the enterprise which conveys the voting rights. The holding company in its turn can be so constructed that a majority of the voting rights in it are held by a minority of its shareholders, and then the process may be repeated by the formation of a further holding company. An example is the British Drapery Trust, which was a holding company controlling retail stores, but was in its turn controlled by another holding company called Debenhams Ltd., which was controlled by a further holding company called Debenhams Securities Ltd. By this device of "high gearing," a few thousand pounds can be used to control millions. Moreover, the multiplication of subsidiary companies makes it virtually impossible for any "outside" shareholder to understand the real financial position of the enterprise from the published accounts. Fancy a shareholder in Imperial Chemicals, for example, going through the Balance Sheets of the 56 subsidiaries and the 14 sub-subsidiaries afore-mentioned! Finally, even where these devices are not resorted to, the very number of the shareholders in many large joint stock companies makes it impossible for more than a small minority ever to attend the annual meeting, let alone to have any effective voice in control. A recent survey of some British companies showed that Dunlop Rubber, J. P. Coats, and Courtaulds all had 50,000 shareholders Imperial Tobacco had 95,000, and Imperial Chemicals 1,250,000. In these cases it is ludicrous to imagine an annual meeting attended by every shareholder. Control naturally passes into the hands of those who are interested enough to attend, who are usually the directors and their friends. Moreover, the custom of voting by proxy tends in practice to strengthen still further the position of the directors.

Thus there is substance in the view that many large business organisations to-day are controlled by self-electing oligarchies, who often own only a minority of the capital—and sometimes a very small minority. That is not to say that such organisations are mismanaged. Most of these large concerns are managed efficiently, honestly and conscientiously, in spite of occasional scandals like Insull with his public utility companies in U.S.A., and Lord Kylsant with his shipping companies in England. The issue raised is more serious. It is whether our great industries should be controlled by persons responsible to no one but them-

selves, no matter how honest or efficient they may be. In theory they are responsible to the shareholders, but in practice such responsibility may be fictitious. Hence in the shareholders' own interests, to say nothing of those of the rest of the community, it may be necessary to substitute some measure of public control for the atrophied powers of the annual meeting. An interesting step in this direction was taken in the constitution of the London Passenger Transport Board. The appointment of members of the Board was taken out of the hands of the stockholder, but was not transferred directly to the Government. Instead, a body of appointing trustees was nominated by the Government to act on behalf of the stockholders. Whether this novel device will become at all widespread one cannot say, but it is certain that the problem which it attempts to solve will become increasingly acute with the continual growth in the size of the business unit.

Legal Decisions of Interest to Accountants

By J. A. L. GUNN, F.I.C.A.

LIABILITY OF AGENT TO PRINCIPAL FOR INDEBTEDNESS OF THIRD PARTIES

A *del credere* agent is an agent for sale who, usually for extra remuneration, undertakes to pay if the buyer becomes insolvent; but such an agent does not guarantee the due performance of the contract in the sense that the seller may sue him in respect of disputes arising under it. Such disputes must be fought out between the principals; the agent guarantees only that the buyer will prove solvent (*Gabriel & Sons v. Churchill and Sim* [1914], 3 K.B. 1272).

The *del credere* agent will be liable though the arrangement has not been reduced to, or evidenced by, writing, the agreement not being an agreement to answer for the debt, default or miscarriage of another within the meaning of S. 4 of the Statute of Frauds (*Sutton & Co. v. Grey* [1894], 1 Q.B. 285).

What is the liability of an agent to his principal for the indebtedness of a third party where the *del credere* relationship does not exist? An agent's authority is at least presumptively to settle in cash, in the absence of express authority to the contrary effect or of an authority by custom or usage. Thus, in *Blumberg v. Life Interests & Reversionary Securities Corpn., Ltd.* [1897], 1 Ch. 171, the question was whether a valid tender of mortgage money had been made. It was held that it had not, because it had been made by cheque, which was not a good tender. Again, in *Williams v. Evans* (1866), L.R. 1 Q.B. 352, it was held that a purchaser at an auction sale could not claim that he had paid the purchase price as against the seller when he had purported to do so by giving a bill of exchange to the auctioneer. Similarly,

in *Papé v. Westacott,* [1894] 1 Q.B. 272, an agent was held liable for parting with a license against a cheque which was dishonoured, whereas he was authorised only to do so against cash.

Where, however, there is an authority for the agent to give credit, and the third party is financially embarrassed, the agent's duty is to do his best to collect all he can in the circumstances. In *Yokal, etc.* (*Firm*) *v. Nand Ram, etc.* (*Firm*) [1938] 4 All E.R. 407, the respondents, a firm of commission agents in Calcutta, were employed by the appellants to make certain purchases and sales. Three transactions were executed by the agents with parties in financial difficulties, and in the result the agents succeeded in obtaining payment of a part only of the indebtedness. The principals instituted proceedings against the agents for the balances outstanding. The Privy Council held that the duty of the agents was to exercise due care, skill and judgment in getting in what they could by making the best bargain possible in the circumstances. The onus was on the principals to prove that the agents had failed in that duty and had been guilty of negligence, and this they had not discharged. The evidence, in fact, established that the agents had recovered a substantial amount of the indebtedness, and that they could not have recovered any more.

Not only is the onus on the plaintiff in such a case to prove that the agent has failed in his duty, but that the plaintiff has suffered damage, which he can do only by showing that the agent could have realised more cash in the circumstances of the case than he actually did. An old case, *Russell v. Palmer,* (1767), 2 Wils. K.B. 325, illustrates this principle. The defendant was an attorney who, by his negligence, had failed duly to charge a judgment debtor in execution, so that he was released from the prison in which he was held in respect of the debt. It was decided that the defendant was not liable for the whole debt, but only for such part of it as might have been realised by execution.

Damages for Shock

The object of this note is two-fold. Not only is it desired to unfold the story of a series of decisions regarding damages for injuries arising out of collisons, or threatened collisions, but also to draw the attention of readers to the judgments of McKinnon L.J., a justice of the English Court of Appeal and a "consummate master" of the English language. Mais has said: "The writing of English is fun or it is nothing." His Lordship's judgments are pure delight and this poor bookkeeper gratefully prostrates himself.

Nervous Shock or Mental Injury.—The first decision to note is that of the Privy Council in *Victorian Railways Commissioners v. Coultas* (1888) 13 App. Cas. 222. A gatekeeper had negligently invited the plaintiffs to drive over a level crossing when it was dangerous to do so, and the jury, although an actual collision with a train was avoided, nevertheless assessed damages

for physical and mental injuries occasioned by the fright. The Privy Council held that nervous shock or mental injury was too remote, and could not be recovered. Happily for the pedestrian, this decision has been uniformly discredited and disapproved ever since. The judges, in the intervening 50 years, would rather have eaten their old school ties than have supported such an inhuman proposition.

Reasonable Fear of Immediate Personal Injury.—The next case is that of *Dulieu v. White & Sons* [1901] 2 K.B. 669. Kennedy J. held that damages which result from nervous shock occasioned by fright, though unaccompanied by any actual impact, may be recoverable in an action for negligence. Nevertheless, he held that the shock "must be a shock which arises from a reasonable fear of immediate personal injury to" the claimant. In *Hambrook v. Stokes Brothers* [1925] 1 K.B. 141 (which was a case of a mother affected by shock, not from any apprehension of personal injury to herself, but from such apprehension as to her young children), it was held that the limitation thus imposed by Kennedy J. was erroneous. Atkin L.J. said, at p. 157: "I can find no principle to support the self-imposed restriction stated in the judgment of Kennedy J. . . . . that the shock must be a shock which arises from a reasonable fear of immediate personal injury to oneself . . . . Personally, I see no reason for excluding the bystander in the highway who receives injury . . . . from apprehenson of or the actual sight of injury to a third party. There may well be cases where the sight of suffering will directly and immediately physically shock the most indurate heart; and if the suffering of another be the result of an act wrongful to the spectator, I do not see why the wrongdoer should escape."

Apprehension of, or Actual Sight of, Injury to a Human Being.—The above cases deal with shock resulting from apprehension as to personal injury to the claimant himself, or to some other person in whose safety the claimant is, from affection, or from mere humanity, concerned. Does it follow that, in a claim for damages, there must be apprehension of injury to some human being? "If real injury has genuinely been caused by shock from apprehension as to something less than human life (for example, the life of a beloved dog), can the sufferer recover no damages for the injury he, or perhaps oftener she, has sustained?" [1938] 4 All E.R. at p. 730.

A funeral procession was passing along a street in Liverpool, England, when a tram-car, negligently driven by the servant of the defendants, collided with the hearse, broke its glass side and overturned the coffin, so that there was a danger of its being ejected into the road. The plaintiffs, the relatives of the deceased, were in a carriage following the hearse. One of them actually saw the impact, the others saw its effect immediately after it had happened. The plaintiffs claimed damages for severe shock, and one of them, the aged mother of the deceased, claimed damages for severe shock and collapse. The judge at the trial found that

each of the plaintiffs did receive injury in the nature of shock, but dismissed the action, on the ground that there was no apprehension, or actual sight, of injury to a human being. The plaintiffs appealed to the Court of Appeal, where it was held that the right to recover damages for mental shock is not limited to cases in which apprehension as to human safety is involved, but extends to every case where injury by reason of mental shock results from the negligent act of the defendant. The plaintiffs were, therefore, entitled to recover the damages assessed by the judge. *Owens v. Liverpool Corporation* [1938] 4 All E.R. 727. Conditional leave to appeal to the House of Lords was granted.

McKinnon L.J. said at p. 731: "It may be that the plaintiffs are of that class which is peculiarly susceptible to the luxury of woe at a funeral, and may be disastrously disturbed by any untoward accident to the trappings of mourning. Nevertheless, one who is guilty of negligence to another must put up with idiosyncrasies of his victim that increase the likelihood or extent of damage to him. It is no answer to a claim for a fractured skull that its owner had an unusually fragile one. In the result, if we accept, as we do, the finding of the deputy judge that the plaintiffs genuinely suffered from that form of illness which is called shock as the result of the negligence of the defendants' servant, we think that the plaintiffs are entitled to recover the damages which he assessed, and that this appeal must be allowed."

In conclusion, it will be seen that the road of the motorist (or his insurer) is growing harder every day. First, he runs the risk of damages for shock caused by reasonable fear of personal injury to the claimant; then of damages for shock resulting from apprehension as to personal injury to some other person in whom the claimant is concerned; then of damages for shock from fear concerning the fate of Rover, and at last of damages for shock resulting from the disturbance of an angel at the outset of his journey. Where will it end? Snoopers of street accidents will soon be able to earn an indecent livelihood.

A Planned Economy — Possible or Desirable?

(Being a lecture delivered by Professor R. C. Mills, O.B.E., LL.M., D.SC. (Econ.), Dean of the Faculty of Economics in the University of Sydney, at the Conference Room of the Commonwealth Institute of Accountants, Sydney, on November 22, 1938)

There is no doubt that a planned economy is possible, but whether it is desirable will depend in great measure upon how it differs from the present system and what hope it offers of escape from undoubted social evils.

The present system has many evils, and many people are desirous of abolishing those evils. The problem of how such evils can be abolished is one that is difficult to solve, and one on which people differ in opinion. The "present system" may be called "modern capitalism" to illustrate the fact that it has developed from earlier forms and presumably will continue to be subject to change.

Let us examine the way that the present system works.

The expression "modern capitalism" may better be examined if we consider the two words separately, i.e.:

(1) Modern
(2) Capitalism.

"Modern" obviously denotes something different from that which existed (say) 100 years ago. It also indicates something on the move and, therefore, changing. A marked change has taken place during the past century. There are still many people who look back to the good old nineteenth century, but, generally speaking, the social conditions have vastly improved. Because we live in the present age, however, we must not imagine that we have reached perfection. Modern capitalism is not all that could be desired, but if we change to another system, the change may not be to a Planned Economy; it may be superseded by Fascism or by some other 'ism.

Capitalism is not altogether a good term. It means a society organised in a certain way; it does not necessarily mean the existence of capital. In all countries, with the exception of Russia, there is a system of capitalism, but the system varies in detail. If you compare the capitalism of one country with another, you will find differences. Its shape differs according to the characteristics of the country in which it has developed, but broadly some common features exist which may be described as *private property* and *freedom of enterprise.*

By private property we mean that individuals have the right to own property. The area over which this right is exercised is very wide, extending to land, buildings, furniture, personal effects, etc., and things over which rights exist, such as copyrights, etc. Under the present system, society allows persons to own things, and their rights are respected.

Freedom of enterprise means that a person possesses freedom of choice concerning the trade, industry, profession or calling, in

which he wishes to engage. In this connection, the freedom which applies to an individual, similarly applies to groups of persons, e.g., partnerships and companies. Under modern capitalism, there is no central authority telling people what they must do, and what they must produce. Within certain limits, a person is free to do as he wishes and free to change his occupation. We are all so familiar with this freedom that we take no notice of it. There are, of course, certain restrictions to this freedom, e.g.:

(1) The laws against theft and other similar activities.
(2) Customary restrictions.

An important feature of the freedom of enterprise is the right of the consumer to choose what he thinks he wants; he is not compelled to consume something else. There are certain limits imposed on consumers by the existence of monopolies. Advertising is a very powerful force; an advertisement may hypnotise a consumer into thinking that he wants certain goods, but it is not a complete limitation; consumers are guided in their choice by considerations of price, quality, and suitability of the article for the purpose required.

The immediate objective of persons in industry is to produce what they think will return them the best income, and under our present system, there is no central authority making calculations of the requirements of the community for boots, hats, loaves of bread, etc., and compelling people to produce the actual requirements calculated. People are free to produce whatever they think they can sell and thus derive an income therefrom.

Modern capitalism assumes that, generally speaking, a person may take that path that will lead to a higher income. Many people have embarked upon the production of articles for which a profitable market could not be found, and their ventures have proved failures, because consumers didn't want their products. The process, which is governed by price movements, changing fashions, etc., is one of trial and error, with the consumer as the final judge. The consumer's choice is an indication to the producer as to what to produce.

The characteristic form of modern capitalism is that money is the immediate objective of most economic activity and the system works by inducing individuals in their own interest to provide goods and services which can be sold for money. Price changes are the means whereby productive activity is directed into channels likely to satisfy the demands of consumers, and whereby consumers may be guided in their expenditure.

It is a working system. We all criticise it, but we know that it works. Nevertheless, it has many evils. The existence of poverty, unemployment, inequality of incomes and booms and slumps leading to social insecurity, has pointed most criticisms of capitalism and has led to proposals for change either gradual or revolutionary. Many people spend their lives on the borderline of destitution.

One-tenth of the people share about 42 per cent. of the total

income, while the other nine-tenths share the remaining 58 per cent. of the total income.

While many people in some countries are starving, foodstuff is being destroyed in other countries, e.g., in Brazil, some of the coffee crop is destroyed in order to render the remainder of the crop more valuable; in U.S.A., certain crops are dug in.

Then there are what are termed "wage slaves." It is not a good term; it is somewhat of a contradiction. Nevertheless there are many persons employed in occupations of a very monotonous nature, whose sole interest in their work consists of drawing wages.

Criticism along these lines has led to suggestions for a change from the present social system. Socialism is the principal alternative suggested to capitalism, and until recently was concerned mainly to abolish private property and private profit-making, by substituting public property and public enterprise.

Any form of socialism means the absence of private property and of freedom of enterprise.

Prior to Russia's experiment it was customary to say that socialism would not work, but since the Russian change, we cannot say that it will not work.

A change from modern capitalism to socialism would be a revolutionary change. By revolution, is meant the introduction of a new system.

Until Russia's experiment, people spoke of socialism but did not think of it in terms of planning. Ever since the Russian experiment began the further notion of planning has been prominent, i.e., planning production and distribution for the benefit of the community as a whole and not of any one section.

So successful has been the idea of planning, that some people now speak of planning in connection with the existing capitalist system. This is a contradiction, as planning applied to the economic system would abolish freedom of enterprise. Planned economy is conscious control over the whole of the economic activities of the community—a radical change involving the substitution of public ownership for private ownership of property, and control by a central authority according to a definite plan. There could be sub-plans, or sectional plans, but all must be subordinated to the general plan. The principal economic problems of any economy would still have to be faced by a planned economy, i.e., what is to be produced, in what quantity and by what methods.

Since the price mechanism would either be abolished, or be fundamentally changed, the plan must solve the problems of the distribution of resources, human and other, between employments and occupations; the provision of capital equipment necessary for production; and the distribution of incomes to individuals.

Resources are limited; an economical system consists of putting resources to best use.

Under a planned economy, a central authority would determine what we are to produce; where our factories are to be built; where the retail establishments are to be erected; who are to be employed in the different industries and establishments; the hours of labour; rates of wages, etc.

Under a planned economy, there would be no profit; and therefore, such matters as costs and prices would not carry any weight with the central authority in its planning. The central authority could fix all prices; but that would not provide a test as to whether resources have been used wisely.

Under capitalism, a person sells his services for the best income obtainable; under a planned economy, the central authority would determine where he should be employed and his rate of wages or salary. This raises the question of whether people will render efficient service without the incentive of gain. The increasing intervention of the State in social policy has meant for capitalist countries greater control over production and distribution; the growth of monopoly has modified the working of the system; and the policy of economic nationalism has meant further changes. One socialist experiment is in process.

The State has done much to improve the present system; we are not now living in the system of unlimited private enterprise that existed 50 to 100 years ago.

Heavy taxation, pensions, factory regulations, arbitration laws, etc., have done much towards reducing inequality and abolishing poverty. The system now conforms more to what the State considers is a fair thing. The practical choice, therefore, is not between unlimited capitalism and academic socialism, but between State regulated capitalism and a planned economy.

A planned economy certainly is possible, but whether desirable or not will be determined by the way you are attracted to the two alternatives to which I have referred.

Control v. Adjustment

Mr. Burke, in his letter, which appears in the January, 1939, issue of the Journal, objects to the term "control account" as used by Mr. Solomon in his article on the "Audit of Mechanised Accounts." Mr. Burke prefers the older term, "adjustment account."

Mr. Fitzgerald, in his paper on "Accounting Terminology" (*Proceedings of the Australasian Congress on Accounting* at p. 136), says this:

"In recent years the influence of American accounting literature on Australian thought and technique has become steadily more and more potent, and the consequence has been the introduction of many new terms. Again speaking in general terms, the Americans appear to have given closer attention to the selection of precise terms, and some improvement in this respect has, without doubt, resulted from the adoption of certain of those terms in Australia. The substitution of the term "control account" for the traditional English "adjustment account" is an instance in point."

I have not a copy of Mr. Burke's dictionary, but Webster's dictionary gives the following meanings to the above words:

Adjustment:

(1) Act of adjusting, or state of being adjusted; as:
  (a) The bringing of a thing or things into proper or exact position or condition;
  (b) Commercial. The calculation and settlement of the several shares to be had or borne by various parties in respect of a liability, claim, loss or payment to be divided among them.

(2) A means, as a mechanism, by which things are adjusted one to another.

Control:

(1) Orig., to check by a duplicate register or account; now, to check or regulate (expenditure, payments, etc.).

(2) To check, test, or verify by counter or parallel evidence or experiments; to verify by comparison or research (rare).

(3) To censure or call to account (Obs.).

(4) To exercise restraining or directing influence over; to dominate; regulate; hence, to hold from action; to curb; subject overpower.

I believe the word "control" is more suitable than "adjustment."

The "control account" checks or tests by parallel evidence (built up from the accumulation of each group of postings), the accuracy of that group. The account certainly "verifies by comparison." Meaning 2 is wholly satisfying and I object to Webster describing it as "rare."

The account does not, in my opinion, bring the "things into proper or exact position or condition," nor is it "a means by which things are adjusted one to the other." The account does no more than test the accuracy of the things and for that purpose must itself be accurate. If the things are wrong the account will not bring them into their exact position, as every ledger keeper knows. He must find the mistake, often without tea money.

Moreover, in these dark days, I suspect the word "adjust." It has a shifty air. England and France "adjusted" Czechoslovakia; Germany in the fourth meaning now "controls" it.

Although I have had the temerity to disagree with Mr. Burke in a particular, I am extremely grateful to him for his contribution. There is a natural but regrettable tendency towards laziness in the use of words, and Mr. Burke's mental carminative is most welcome.

J. A. L. GUNN.

Relations between Creditors and an Insolvent Debtor

A Brief Review of the Judgment in English, Scottish and Australian Bank Ltd. and Docker Case

By W. H. Spooner, A.C.A. (AUST.)

Docker, a stock and share broker, was adjudicated bankrupt on January 6, 1937, and, subsequent to his bankruptcy, the Official Receiver as trustee of his estate commenced proceedings against the English, Scottish and Australian Bank Ltd. These proceedings were aimed at establishing that the bank had obtained preference in the distribution of the bankrupt's assets at the expense of other creditors.

The legal proceedings were successful in that the bank was ordered to pay or account to the trustee for the sum of £233,953 19/6 and it is understood that there will not be an appeal from the judgment.

Summary of Facts

The bankrupt was a chartered accountant who subsequently became a member of the Sydney Stock Exchange. He was suspended from membership of the Exchange on November 13, 1936, and made bankrupt on January 6, 1937.

In July, 1935, he made overdraft arrangements for a £7,000 limit with the English, Scottish & Australian Bank Ltd., to cover which he lodged certain securities. He also made arrangements for temporary accommodation in excess of the £7,000 limit pending completion of share transactions to the extent of approximately 75% of market value of scrip to be lodged with the bank. The bank was informed that clients were being "carried" and the business not confined to purely local broking. In addition to specific securities, Docker gave the bank a general lien.

The bankrupt, on his own behalf and on behalf of some of his clients, plunged into large speculations in mining and other scrip. The bankrupt "carried" some of his clients and had, in consequence, to provide for "differences" consequent on the serious fall in value of shares in September and October, 1935, and at various times thereafter. He does not appear to have made, at any subsequent time, full recovery from that plunge. He overdrew his overdraft limit considerably. The bank allowed him to do so, and his account, in consequence, became a source of difficulty and trouble to the bank.

In October, 1935, the account was considered by the bank to be out of order. The bank then commenced endeavours to have it brought back to a satisfactory level and in August, 1936, appointed chartered accountants to investigate the position and report to the bank. This report showed, *inter alia*:

(a) Estimated deficiency, £10,021/15/11.
(b) Loss of £19,596 on shares, market fluctuations, etc.
(c) Unsecured creditors, money on deposit and unclaimed profits, £9,753/11/7.
(d) Total liability to unsecured creditors, £10,100/14/11.
(e) Estimated unsecured overdraft with bank, £15,829/16/2.

Arrangements were made by the bank as follows:

(a) Liabilities to bank were merged and fresh account opened for broking transactions.
(b) From fresh account £100 per month to be drawn for living expenses and £100 per month allocated in reduction of old debt with bank.
(c) All proceeds of realisations from scrip on hand and all collections from debtor's customers to be paid in reduction of liability to bank.
(d) Countersignature of cheques by someone acceptable to bank and supervision of business by chartered accountants nominated by the bank.

The arrangements ultimately failed and a tangled skein was left for the Court to unravel.

Trustee's Claim

The Trustee claimed against the bank:

(1) That Docker committed acts of bankruptcy by the payment of various sums of money, his property, to the bank on various dates, each date being within the statutorily prescribed time of six months preceding the date of the presentation of the bankruptcy petition.
(2) By reason of Section 90 of the Act, the bankruptcy related back to and commenced on 11/8/36, the date on which the first of these acts was alleged to have been committed.
(3) That, after 11/8/36, and prior to 23/12/36 (the date on which the petition was filed), the sum of £226,192 was paid by Docker to the bank and that, by virtue of the relation back doctrine, this money was the property of the Trustee.

Bank's Reply

The bank based its defence to the Trustee's claim on the following grounds:

(1) Denial of acts of bankruptcy, of bankrupt's inability to pay his debts and of the claim that preference was given to bank.
(2) Protection as a payee, transferee or endorsee in good faith and for valuable consideration in the ordinary course of business.
(3) Claim to be a secured creditor; and
(4) Benefit of Section 82 as to set off and mutual credit.

Principal Sections Involved

It might be as well to quote some of the Sections of the Act. They are familiar but important:

(a) *Right of Set Off*

Section 82—Where there have been mutual credits, mutual debits or other mutual dealings between a bankrupt and any person proving or claiming to prove a debt in the bankruptcy, an account shall be taken of what is due from the one party to the other in respect of such mutual dealings and the sum due from the one party shall be set off against any sum due from the other party and the balance of the account, and no more, shall be claimed or paid on either side respectively.

Provided that no person shall be entitled under this Section to claim the benefit of any set-off against the property of a debtor in any case where he had, at the time of giving credit to the debtor or at the time of receiving credit from the debtor, notice of an available act of bankruptcy.

The pertinent point is the proviso.

(b) *Relation Back*

Section 90—The bankruptcy of a debtor, whether it takes place on the debtor's own petition or upon that of a creditor, shall be deemed to have relation back to, and to commence at, the time of the act of bankruptcy being committed on which a sequestration order is made against him, or, if the bankrupt is proved to have committed more than one act of bankruptcy, to have relation back to, and to commence at, the time of the first of the acts of bankruptcy proved to have been committed by the bankrupt within six months next preceding the date of the presentation of the bankruptcy petition.

(c) *Voidable Preferences*

Section 95 (1)—Every conveyance or transfer of property, or charge thereon made, every payment made, every obligation incurred and every judicial proceeding taken or suffered, by any person unable to pay his debts as they become due from his own money, in favour of any creditor or of any person in trust for any creditor, having the effect of giving that creditor, or any surety or guarantor for the debt, due to that creditor, a preference, a priority or an advantage over the other creditors, shall, if the debtor becomes bankrupt on a bankruptcy petition presented within six months thereafter be void as against the trustee in bankruptcy.

Equitable Assignment and Voidable Preferences

The Court found on the facts that Docker had not given an equitable assignment of his book debts to the bank and that the amounts paid to the bank during the period were preferential payments made at the expense of other creditors. The judgment deals with the facts and the law at some length and even a summary thereof would be lengthy. It is proposed to restrict comments to other aspects which are more interesting because they relate to circumstances which a Trustee generally has to take into consideration when deciding whether or not legal proceedings will be justified.

Mutual Credit and Set Off under Section 82

Between June 24, 1936 and August 11, 1936, the bank advanced the bankrupt the sum of £72,998/4/8. Between August 11, 1936, and November 13, 1936, the bank advanced the bankrupt the sum of £233,953/19/6. These amounts were presumably the total of the cheques drawn by Docker on his banking account and duly met by the bank on presentation. The bank claimed that, at the time of each of the advances, it had not any notice of an available act of bankruptcy, that each of the payments was made in good faith and in the ordinary course of business and that the bank was entitled to set off the total of the sums against the amount claimed by the Trustee.

The transactions totalling £72,998/4/8 occurred before August 11, 1936, i.e., before the date to which the bankruptcy was related back. The Trustee made no claim thereto.

The Court found against the bank on the ground that, at the time of the transactions, the bank had notice and knowledge of the bankrupt's inability to pay his debts as they became due out of his own money and of his having committed available acts of bankruptcy.

The Court also made this interesting remark:

> From another point of view the defence would fail because the bank could not claim a set-off, for the bankrupt's property was to be deemed throughout to have passed to the trustee and the bankrupt had become incompetent to confer any rights in regard to it—even a right of set-off.

Bank's Protection by Sections 96, 96A, and 97

These Sections give protection to *bona fide* transactions without notice to a creditor with a debtor subsequently made bankrupt. The Act contemplates protection to creditors in circumstances in which they had no knowledge that the debtor's affairs were involved. The bank claimed the benefit of these Sections, but without success.

It is not so much the judgment on the particular circumstances of this case as the quotations from judgments in earlier cases which will be of interest to readers. There is a familiar atmosphere in the following:

In re Jukes, 1902:

> I cannot help thinking that, if a creditor of a debtor takes the whole, or substantially the whole, of the property of his debtor in payment of a past debt and knowing that there are other creditors he cannot be said to be acting in good faith.

In re Stainton:

> Now a man, of course, has a perfect right as long as he is solvent to determine that he will go on with a business although it may be a losing business. He may trust that before he becomes insolvent matters will change and he will again be in a condition of prosperity. But the moment he becomes insolvent, then he is no longer going on at his own risk in case of failure, he is going on at the risk of his creditors, in case things do not mend as he hopes they will. In my

judgment a man has no right to do that. The moment things have got to such a pitch that he cannot pay 20/- in the pound but he nevertheless thinks that if he goes on he may be able to retrieve his position, in my opinion he ought to call his creditors together and leave them, who will have to bear the loss in case his calculations are wrong, to determine whether that course of going on shall be proceeded with or not.

In re Freeman:

When a man is insolvent he has no business to take upon himself to decide whether his business is or is not to be sold or whether his business is or is not to be carried on. When he is insolvent he really is carrying on his business at the risk and expense of his creditors . . . A man, therefore, is not justified in going on, or in selling, or, in fact, taking any step at a time when he is insolvent without the concurrence of the creditors who have to bear the burden, if that step turns out to be a disastrous one.

In re a Debtor, 1912:

I desire to add that it is a principle of the law of bankruptcy that, if a man be insolvent, it is desirable that at the earliest possible moment means shall be available to protect his assets for the benefit of all his creditors.

Consequences of Continuance of Operations with an Insolvent Debtor

To commercial circles, the importance of the Docker and English, Scottish & Australian Bank Ltd. litigation is the evidence it gives of the danger of creditors continuing operations with a debtor who is insolvent or has committed an act of bankruptcy. The danger is summarised as follows:

(1) By Section 90, the bankruptcy can be made to "relate back" to the first available act of bankruptcy within six months preceding the date of the presentation of the petition.

(2) All transactions during that period can be attacked under Section 95 as preferences by the Trustee in Bankruptcy if they had the effect of giving a particular creditor a preference or priority over other creditors. The creditor concerned has in such circumstances the onus of proving that not only was he unaware and had no reason to suspect that the debtor was unable to pay his debts as they became due, but that the transaction occurred under such circumstances as to lead to the inference that the creditor knew or had reason to suspect that such a position existed; and

(3) "A man who has committed an act of bankruptcy is not entitled to deal with his estate. He has no right to gather it in or to make payment to his creditors out of that which he actually has at his command. He can give no good discharge to a debtor who pays him with notice of the act of bankruptcy, because the debt may, by subsequent proceedings, be turned into a debt due to his Trustee and not to himself."

The Classification of Trading Expense

By R. A. HICKIN, A.I.C.A.

Reference was made in a former article to the desirability of enquiring into the functions of the various accounts kept to record revenue and expense items, with a view to determining whether the existing classification is adequate. It should be allowed for at the outset that in a matter of this kind, individual preferences play a large part in determining the nature of the accounts required, and what subdivision is necessary, but there are certain broad principles that should guide individual choice, and the attempt is made in this article to draw attention to these, so that the accountant who is called upon to plan a system or to reorganize an existing one which is thought to be inadequate or unsatisfactory in some respects, may have some guidance, and so be in a position to draw up a scheme of classification which shall be suitable for the business in which he is engaged.

We shall assume that the relevant accounts in the General Ledger are classified broadly under the following captions, viz:

Cost of Goods Sold
Sales Expense
Office Expense
General Expense
Advertising Expense

and that other isolated accounts record such non-trading expense as interest on advances, inventory adjustments, etc. These could be grouped under the caption "other expense," while corresponding non-trading earnings would appear in the profit and loss as "other income." These two groups would follow, in their position in the account, the determination of the operating profit, so that the trading and non-trading items be kept distinct.

It is not proposed to make a survey of any costing system, or to suggest any basis for costing, in the present article. We shall assume that the item "cost of goods sold," comprises all the items of expense normally charged to such an account. Indeed, the whole question of the desirability of keeping a record, under a distinctive account heading, of the cost of the goods sold is beyond the scope of the present enquiry.

There is a tendency to include in the cost of goods sold the expense of the costing department, and it is suggested that this is a wise course to pursue. We may therefore commence our consideration of trading expense with the office salaries. The salaries paid to the office staff should be analysed into the several functions carried out by these employees, who normally fall into the following groups:

1. Order and Shipping Clerks.
2. Customs Clerks.
3. Invoice Clerks and Typists.

4. General Typing Staff.
5. Accountant and Office Manager.
6. Costing Clerks.
7. Ledgerkeepers.

This is a very general classification. In a small business some of these duties may be combined, but in a concern of moderate size it will usually be found that the employees may be classified as above. We will now deal with them in the order given:

1. *Order and Shipping Clerks.* The salaries of these employees should not be regarded as office salaries at all. The function of this department is purely a sales function, and the expense should be allocated to suitable accounts in the selling and distribution group; the time spent on orders, such as recording the orders received from outside representatives, keeping statistical records of sales according to territory, preparing the internal orders to be used for invoicing, checking invoices, etc., should be charged to an account for sales office salaries; while the salaries of those engaged in preparing delivery instructions for the warehouse, checking these instruction sheets with the invoices when prepared, and seeing that all the slips are correctly signed by the warehouse employee responsible for the delivery, is an expense of distribution and properly belongs to an account such as delivery. It is essential that no charge be made to office salaries for these duties.

2. *Customs Clerks.* The time spent falls naturally into three divisions, viz.:

(a) Inward materials for use in manufacture;
(b) inward goods for sale;
(c) goods exported for sale, drawback claims, etc.

(a) is clearly a manufacturing expense and should be charged in the costing records as part of the landed cost of the goods.

(b) is a selling expense if the goods are indented on customers' orders, as it is part of the cost of getting the goods to the customers. If, however, they are passed into stock for future sale, as is usually the case in a wholesale distributing warehouse, which is the type of business chiefly in mind, the expense should be charged in as part of the landed cost, exactly as is done with the raw materials. This method could be followed also in respect of those indents on customers' orders, and there is much to recommend it, as the expense would then be absorbed in the cost of the goods to which it applied, rather than shown as a specific item in the profit and loss account. This, however, is not a vital point, and may be left to individual preference to decide.

(c) needs no comment. It is clearly an expense of distribution and should be charged, with other items of a similar nature, to delivery.

3. *Invoice Clerks and Typists.* These fall into the sales office salaries classification.

4. *General Typing Staff.* With the exception of the salaries of those engaged on sales correspondence, etc., these should be charged to office salaries in full.

5 and 7. *Accountants, Office Managers and Ledgerkeepers* should all be debited to office salaries, with the following qualifications, viz.:

(1) Part of the accountant's time will be employed in supervision of the costing records, unless there is a cost accountant in charge of this work. The costing may be comparatively simple, but where there are many products or processes they can be decidedly complicated, and the accountant may find that his personal supervision of the costing staff is required fairly constantly, in order that the work may proceed intelligently and accurately. At all events, a careful computation of the time employed in supervision should be made, and an appropriate charge made to the manufacturing accounts.

(2) There is some slight difference of opinion as to the manner in which the salaries of sales ledgerkeepers should be taken up in the accounts. Some accountants hold that this should be regarded as an expense of the sales department, but this is the wrong attitude to take. It should be borne in mind that once the invoicing is completed, the work of collecting the accounts is the responsibility of the accounts department, therefore any expense incurred in this connection should be charged to office salaries.

6. *Costing Clerks.* Where the costing records are carried out by the general ledgerkeepers, an appropriate portion of their salaries should be allocated to costing and charged in the same way as those of employees who spend their whole time on this work.

This completes our survey of office salaries, and we may pass on to a consideration of the various accounts designed to record

Sales and Distribution Expense

The main accounts are:

1. Sales Office Salaries.
2. Sales Administrative Salaries.
3. Sales Administrative Expenses.
4. Salesmen's Salaries.
5. Salesmen's Commission.
6. Salesmen's Expenses.
7. Packing.
8. Delivery.
9. Warehouse and Storage.
10. Miscellaneous Sales Expense.

In connection with selling and distribution expense it should be borne in mind that the object is not to analyse the requirements of any particular class of business, but to lay down broad principles capable of application to almost any concern. For instance, the accounts mentioned above would require considerable extension and modification for application to a retail store, but the principles stated have universal application.

The first six accounts require but little comment. Salesmen's salaries and expenses will probably need some further classification, such as:

Town
Country

or as between the States, if the business is a national one. The same applies, of course, to packing, delivery, etc.

Clear distinctions should be observed between packing, delivery, and warehouse and storage. They will comprise, respectively, the following items, *inter alia:*

Packing

Cost of outside packages, and incidental expenses.
Warehouse labour (not factory labour, which is part of the factory cost of the goods) employed in packing the goods into outside packages.
Rental of packing space.
Electric light (and, in some cases, power also) consumed in the packing section of the warehouse.
Proportion of overseers' time.

Delivery

Labour in loading and otherwise preparing stock for delivery.
Transport accounts from delivery agents, shipping expenses, marine insurance, etc., together with running expense and depreciation of vehicles owned by the business and used for delivery.
Rental of delivery space, electric light, etc.
Proportion of overseers' time.
The items mentioned under "office salaries" above.

Warehouse and Storage

Wages of storemen.
Rental of store space.
Insurance on finished stock.
Proportion of overseers' time.

Other accounts may be necessary in certain circumstances, and there will always be minor items of expense which will not fall naturally into any of the above classifications; these should be charged to an account for miscellaneous sales expense.

Office Expense

The accounts normally kept are:

1. Office Salaries.
2. Office Rent.
3. Stationery.
4. Postage.
5. Telephone and Telegraph.
6. Depreciation of Furniture.
7. Depreciation of Equipment.
8. Exchange.
9. Miscellaneous Office Expense.

1. Has already been dealt with.

2. Office rent account should bear the cost of the space occupied by the general office staff, after any adjustment for the portion used for invoicing, and other sales expense duties.

3. Stationery. The only matter which requires consideration is the use that is sometimes made of office stationery for advertising purposes. It is taken for granted that proper stock records are kept for all stationery items, and that these are supplied only on formal requisitions signed by a responsible officer. The requisitions should be of two kinds, viz.:

(1) Those used for requisitioning stationery used for ordinary office requirements.

(2) Distinctively tinted and numbered forms for use by the advertising department. These should be filed separately, and the values of the materials requisitioned shown clearly for entry purposes. Entries would be made in a journal kept for the purpose, which would be closed off monthly and appropriate entries made debiting the advertising expense concerned. Those who have had experience of stationery control will appreciate the value of such a record, as it frequently happens that when such precautions are not taken, the office stationery account is debited with many items which are properly chargeable to other accounts.

The other accounts mentioned above are self-explanatory. It will be appreciated that the reason for separating the charges for depreciation of furniture and equipment is that when this is done, it is possible to see at a glance the annual cost of mechanical aids employed.

A further point is that only office postages should be charged to postage account, the postage books being so designed that the mailing expense in connection with samples and other advertising matter is charged separately to enable appropriate entries to be made.

General Expense

The accounts will comprise, usually:

Executive Salaries
Executive Travelling Expense
General Rent
General Insurance
Legal Expense
Dues and Subscriptions
Auditing
Miscellaneous General Expense.

These require little comment. Executive salaries should comprise general managerial salaries only, all those capable of being charged to some specific expense group being so disposed of. The general expense group should contain only those expenses for which no other description is adequate.

No attempt will be made to indicate the nature of the accounts kept to record advertising expense, as in a matter of this kind generalisation is useless. The only point that should be borne

in mind when planning these accounts is that short cuts often prove uneconomical: in other words, the fullest detail given in the accounts will save valuable time when statistical information is being compiled. It will be appreciated that advertising expense, owing to modern competition, is a very heavy item in most concerns, and each class of expenditure should be followed up very carefully in order that results may be compared with amounts expended, and thus profitable media may be concentrated upon and unprofitable expenses discontinued. An exhaustive classification of advertising accounts is therefore invaluable to the keen advertising executive. He does not have to await the compilation of statistics—his vital figures are available as soon as the original entry is made and posted to the ledger.

It is hoped that the suggestions made will clear the way for a systematic classification of trading expense; and even more important in some respects, that it will establish the value of certain information being accessible, so that the onerous task of preparing the annual and periodic budgets may be approached without having, first, to decide what items of expense should be charged to the various accounts.

Secret Reserves

By O. R. MacDonald, A.I.C.A.

Examination students are apt to be puzzled over what are known as "secret reserves," firstly, as to their nature; secondly, as to whether they are in conformity with sound accountancy practice; and, thirdly, as to whether they are morally justified. Confusion of thought and uncertainty on the part of students is understandable, for it is a controversial subject, and even the text-books treat it cautiously. To quote from Dicksee's *Auditing* (15th edition by S. W. Rowland), "This most debatable subject is approached with considerable diffidence."

Since the hearing, in 1931, of the case *Rex v. Lord Kylsant and Another* (familiarly known as the Royal Mail Case), in the course of which much was said on secret reserves, there is a current impression that they may be actually illegal. This impression is due to a misunderstanding of the facts of the above case which, so far as the question of secret reserves was concerned, had to do with the bringing back into profits, in a manner that was said to be calculated to mislead, of amounts previously provided to meet anticipated liabilities, and with the treating of these amounts as income for the period in which they were written back, rather than with the question of the creation of secret reserves.

In the broadest sense, any omission of an asset, inclusion of an asset at a figure below its true value, inclusion of a non-existent liability, or inclusion of a liability at more than its true figure, creates a secret reserve. Theoretically, secret reserves are not justified, for exact accounting calls for facts.

Few, however, would object to a somewhat conservative view being taken in the valuation of assets. On the other hand, the practice of the directors of a company of making undisclosed provisions in excess of requirements in order to provide means of equalising dividends in later years may not be so generally approved. It is not proposed in this article to attempt to define where a secret reserve ceases to be merely a prudent provision, and becomes a secret reserve as it is generally understood, viz., a provision considerably in excess of current requirements or those of the immediate future. It is impossible to generalise on such a matter, as the attendant circumstances are capable of too great a variation. All that is intended is to set out a few simple observations on the nature, use and abuse of secret reserves.

Nature of Secret Reserves

Secret reserves may generally be defined as reserves and provisions not disclosed as such in the balance sheet. Items may be omitted altogether, or assets may be understated, or liabilities overstated. Items may be disguised or be so grouped as to hide their true identity.

Simple examples of secret reserves are:

(a) Undervaluation of stock-in-trade, stores and materials on hand, work in process, etc.

(b) Undervaluation, by excessive writing-down, of fixed assets, such as land and buildings, machinery, etc.

(c) Omission to adjust fixed asset accounts on the sale of any of those assets at a profit on book values. For example, a concern may sell portion of its property at a figure much greater than the book value. The crediting of the entire sale price to property account would reduce the book value of the remaining part of the property still owned by the concern. Machinery may be sold at a price in excess of its value in the books, showing that depreciation in excess ot requirements had been written off its original cost—without any part of that excess being transferred back to revenue.

(d) Omission to write back provisions created for a specific purpose, the need for which no longer exists. It was in this way that a secret reserve was, in effect, temporarily created in the case of the Royal Mail Steam Packet Company. A provision for taxation which it was believed to be necessary was made, but later it was found to be greatly in excess of requirements. This provision was afterwards written back to the profit and loss account.

(e) Charging items of capital expenditure to revenue, e.g., purchases of plant treated as replacements.

(f) Omission to take credit as accrued income of interest, rents, etc., due but not received at balancing date.

(g) Omission to take into account rises in value of a fixed asset (such as land) or of investments (such as shares in a company which have a much greater market value than appears in the books).

Some secret reserves may be readily discoverable on reference to the books of account; they may be secret as to amount and nature for balance sheet purposes only. Thus, sundry debtors may be greatly understated in the balance sheet; reference to the books of account would disclose the true figures and the amount of the provision made against them, which, by an analysis of the debtors' accounts will be seen to be in excess of the total doubtful debts. Others, e.g., those created by treating capital expenditure as revenue expenditure, and the understatement of stock-in-trade, will not be disclosed without examination of original documents, such as invoices and stock sheets.

Some of the forms of secret reserves mentioned could be justified on the grounds of prudence, and, possibly, even of sound accountancy. For example, few accountants would suggest that, because a concern holds shares in a company which are quoted at a figure double the amount at which they were originally purchased, their value should be written up. Similarly, with land or other fixed assets, any suggestion of writing up to current valuations would be very cautiously examined by any accountant. Some under-valuations of assets—for instance, under-valuation of stock—will create only a temporary secret reserve, which will automatically be brought into the income of the ensuing period, unless the under-valuation is uniformly made at each balancing date.

The Use and Abuse of Secret Reserves

It has already been said that the formation of secret reserves is often the result of a conservative policy with regard to the values of assets and liabilities. Another reason has also been mentioned, viz., the desire to equalise the periodical return to the proprietors, whether partners or shareholders. Sometimes, assets are drastically written down with the view to lessening the possibility of shareholders clamouring for larger dividends. The directors believe in the necessity of retaining large reserves in the company, and feel that this can be done only if such reserves are concealed, wholly or in part. The directors intend them to be perpetual; it is not proposed that they will later be taken credit for as profits, except as capital profits in the event of realisation.

Any return of undisclosed reserves to the profit and loss account, however, may be misunderstood unless clearly defined. Secret reserves brought back into the revenue accounts are profits, and may be distributed as such, as the case of *Stapley v. Read Bros. Ltd.* clearly shows. In that case, the directors had written back a portion of the goodwill previously written off against profits, and it was held that dividends could legitimately be paid out of the amount so restored to the profit and loss account. It appears to have been disclosed to the shareholders that the source of the proposed dividend was the writing back of the goodwill, and not current profits. It may easily happen, however, when provisions formerly made are drawn upon, that it will not be readily apparent to the shareholders, from the accounts presented to them, that the company has not earned in the current period the profits shown

in the accounts. This may mislead interested persons, such as creditors and investors, as to the present earning capacity and, possibly, the financial stability, of the concern.

One objection to secret reserves is that assets and liabilities are not stated at their correct values in the balance sheet. This is a sound objection in theory, but subject to some modifications in practice. Much has been said and written on valuation for balance sheet purposes, and it is not proposed to deal with the matter in this article. Varying opinions on the valuation of fixed assets are well outlined and discussed by the Editor of this journal in the September, 1938, issue.

The Auditor's Position

The position of the auditor of a company which has adopted the practice of forming secret reserves may, at times, be difficult. Here, as throughout this article, it is impossible to generalise. The circumstances of each case may have to be taken into account. As a general rule, secret reserves will not be "secret" so far as the auditor is concerned. In verifying the assets and liabilities he will usually become acquainted with the facts. He should give very careful consideration to the secret reserves and all circumstances relating to them. If he is of the opinion that they have been formed in the interests of the company, and are not abused in any way, he will probably not regard it as his duty to qualify his statutory report to the shareholders. He may, in some instances, consider it advisable to mention in his report that, in his opinion, certain assets are understated, or that certain liabilities are overstated, in value, without saying to what degree this has been done. Obviously, if he is not thoroughly convinced that a legitimate use is being made of the secret reserves, it is his duty to report the circumstances to the shareholders. Any bringing back as profits of amounts previously written off would require very careful attention, and he should satisfy himself that the writing back is properly shown in the accounts, and that, particularly if the payment of dividends is affected, the shareholders are advised of the true position.

In conclusion, it must again be emphasised that no general rules can be laid down regarding secret reserves, and that many differences of opinion exist with regard to certain aspects of the subject.

Reduction of Capital

By P. C. BRENNAN, F.F.I.A.

[*A lecture to the Commonwealth Accountants Students' Society, N.S.W. Division*]

Section 158 of the Companies Act of 1936 states that subject to the confirmation of the Court, a company may, if so authorised by its articles, by special resolution reduce its share capital in any way. If power to reduce capital is not included in the articles, the articles must be altered by special resolution to confer the power of reducing the capital. Section 159 of the Companies Act makes provision for safeguarding the interests of creditors and shareholders and Section 160 gives the Court power to compel the company to publish the reasons for the reduction and to compel the company to add the words "and reduced" to its name for such period as the Court directs. These, however, are matters of company law, but to-night I am dealing with reduction of capital as it affects the accounts and the making of the appropriate journal entries.

The most common ways of reducing capital consist of:

1. Writing off unissued capital.
2. Cancelling paid-up capital which is lost or unrepresented by available assets.
3. Repayment to shareholders of capital which is not required.
4. Reducing the liability on unpaid capital.

Cancelling Unissued Capital

All that is required in this case is a simple journal entry debiting Nominal Capital and crediting Unallotted Shares. If both Ordinary and Preference Shares are cancelled, then Unallotted Preference Shares and Unallotted Ordinary Shares would both be credited. This is so simple a proposition that no illustration is necessary.

Reducing the Liability on Unpaid Capital

This is also a very simple proposition and all that is necessary is a journal entry debiting Nominal Capital and crediting Uncalled Capital. If both Ordinary and Preference Capital are subject to reduction in respect of Uncalled Capital, then both the Uncalled Ordinary Capital and Uncalled Preference Capital will both be credited.

Illustration

A company obtained the sanction of the Court to reduce its capital from 20,000 £1 Preference Shares paid to 10/- and 20,000 £1 Ordinary Shares paid to 10/- to 20,000 10/- Preference Shares fully paid and 20,000 10/- Ordinary Shares fully paid.

Journal

Nominal Capital	£20,000	
To Uncalled Preference Capital ..		£10,000
„ Uncalled Ordinary Capital ..		£10,000

Repayment of Surplus Capital

This is also a very simple proposition, only two journal entries and one cash book entry being required.

Illustration

A company with a subscribed capital of 20,000 shares of £1 each, fully paid, obtained the permission of the Court to repay 10/- a share to its shareholders.

Journal

Nominal Capital	£10,000	
To Capital Reduction		£10,000
Reduction of 10/- a share on 20,000 shares as per resolution dated.....		
Capital Reduction	£10,000	
To Sundry Shareholders		£10,000
Amount of reduction transferred ..		
Sundry Shareholders	£10,000	
To Cash		£10,000

Cancelling Lost Capital or Capital Unrepresented by Available Assets

A company with a subscribed capital of 30,000 £1 shares fully paid, had a debit balance in Profit and Loss of £5,000, and had overvalued its Land and Buildings by £5,000 and its Plant and Machinery by £5,000. A resolution was passed to reduce the paid-up Capital by reducing the shares to shares of 10/- each, fully paid, and to write off the debit balance in Profit and Loss, to reduce the Land and Buildings by £5,000 and the Plant and Machinery by £5,000.

Journal

Nominal Capital	£15,000	
To Capital Reduction		£15,000
Reduction of 10/- a share on 30,000 shares as per resolution		
Capital Reduction	15,000	
To Profit and Loss		5,000
„ Land and Buildings		5,000
„ Plant and Machinery		5,000
Writing off of losses through Capital Reduction		

Nothing in any of the foregoing presents any difficulty and if Reduction of Capital presented no further complications I am confident you would all like to see the October examination paper

well littered with questions on Reduction of Capital. However, in many cases, particularly in examination questions, the reduction consists of a combination of cancelling Unissued Capital, writing off Uncalled Capital, writing off Paid-up Capital for the purpose of writing off losses and writing down over-valued assets. The solutions then become far more complicated.

Illustration 1

The John Smith Co. Ltd. was registered with a Nominal Capital of £100,000, divided into 25,000 7% Preference Shares of £2 each and 50,000 Ordinary Shares of £1 each. The whole of the Preference Shares and 25,000 of the Ordinary Shares had been issued. The Preference Shares were paid to £1 and the Ordinary Shares to 5/-. At an extraordinary meeting of the shareholders it was resolved to reduce the Preference Shares to 25,000 shares of £1/10/- each, paid to 15/-, and the Ordinary Shares to 25,000 shares of 10/- each, paid to 5/-, and to cancel the 25,000 unissued Ordinary Shares. The sum so made available was to be used to reduce the balance on Profit and Loss Account. Show journal entries necessary to accomplish the above.

Let me warn you against a short-cut method of combining entries for two classes of shares. This tends to confusion and it is far preferable to deal with each class of share separately. In this case we shall deal first with the Preference Shares.

The Preference Shares were originally 25,000 £2 shares, so that the Nominal Capital as far as the Preference shares are concerned is £50,000. It is now proposed to reduce these 25,000 £2 shares to 25,000 £1/10/- shares, which is a reduction of £12,500 in the Nominal Capital. We must, therefore, debit Nominal Capital with £12,500, and then find what accounts must be credited. As the whole of the Preference Shares were issued, we need not worry at all about the Unissued Capital, because there is none. Now let us see how the Uncalled Capital is affected. Before the reduction, the Uncalled Capital was £1 a share, making a total of £25,000 uncalled. Now, after the reduction, the Uncalled Capital was reduced to 15/- a share, because the shares are now 30/- shares, and called up to 15/- a share, leaving 15/- uncalled. As the Uncalled Capital was previously £1, there is clearly a reduction of 5/- a share in Uncalled Capital, and 25,000 5/- = £6,250. We must, therefore, credit Uncalled Capital with £6,250. We must still find another credit for £6,250 as we have at the present time a debit in Nominal Capital of £12,500 and a credit in Uncalled Capital of £6,250. Before proceeding further remember that the loss the shareholders sustain through losing some of their paid-up capital is the credit to Capital Reduction Account. We shall now see how much paid-up capital has been surrendered by the shareholders. Before the reduction the shareholders had £25,000 paid-up capital, that is, 25,000 shares paid to £1. After the reduction they have shares paid to only 15/-, a clear loss of 5/- a share on 25,000 shares. The shareholders, therefore, lose £6,250 of their

paid-up capital, and this is, therefore, the credit in Capital Reduction Account. In the above reasoning there is no innovation, and the same subject-matter will be found in some form or other in all standard text-books.

The setting out in tabular form, which follows, is, however, to the best of my knowledge, a distinct departure from the usual method of presentation and shows instantly the entries that are to be made to give effect to the reduction.

Preference Shares

Debit		*Credit*		
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital
	£	£	£	£
Before Reduction . ..	50,000	Nil	25,000	25,000
After Reduction	37,500	Nil	18,750	18,750
Reduction In	£12,500	—	£6,250	£6,250

Journal

Nominal Capital	£12,500	
To Uncalled Capital		£6,250
„ Capital Reduction		6,250
Reduction of Preference Capital in accordance with the Resolution dated.....		

We shall now deal with the Ordinary Shares and set out the position in tabular form before we apply our reasoning.

Ordinary Shares

Debit		*Credit*		
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital
	£	£	£	£
Before Reduction . ..	50,000	25,000	18,750	6,250
After Reduction	12,500	Nil	6,250	6,250
Reduction In	£37,500	£25,000	£12,500	—

It will be seen at a glance that the journal entry to give effect to the reduction of the Ordinary Shares will be:

Nominal Capital	£37,500	
To Unissued Capital		£25,000
„ Uncalled Capital		12.500

The Ordinary Shares, before reduction, had a Nominal Capital of £50,000, being 50,000 shares of £1 each, and after reduction they had a Nominal Capital of £12,500 consisting of 25,000 10/- shares. This is shown in the tabular statement and results in a reduction of £37,500 in the Nominal Capital. Before the reduction

the Unissued Capital was £25,000, but as the Unissued Capital was cancelled there will be no Unissued Capital after the reduction. This is plainly indicated in the tabular statement. Before the reduction, the Uncalled Capital was £18,750 because 25,000 shares had been issued and called up to 5/-, leaving 15/- a share uncalled, and 15/- a share on 25,000 shares equals £18,750. After the reduction, the Uncalled Capital was only £6,250, because the shares are now 10/- shares called to 5/-, leaving 5/- uncalled, and 25,000 times 5/- equals £6,250. This gives a reduction of 12,500 in the Uncalled Capital, which is also plainly indicated in the tabular statement. Before reduction, the shares were paid to 5/-, and after the reduction they are still paid to 5/-, so that there is no loss of paid-up capital to the shareholders and consequently there is no entry in the Capital Reduction Account.

You will readily see that the bottom line of the statement gives the correct figures to frame the appropriate journal entry.

Illustration 2

The Nominal Capital of a limited company consisted of 20,000 £1 8% Preference Shares, 10,000 £5 Preferred Ordinary Shares, and 10,000 £3 Deferred Ordinary Shares. Owing to unsuccessful trading, losses to the extent of £15,000 had accumulated, and at a meeting of shareholders it was resolved to reduce the capital in order to write off the losses. The reduction which was agreed upon, and subsequently confirmed by the Court, was as follows:

Of the paid-up capital of the 10,000 Preference Shares issued, upon which 15/- per share had been paid, 5/- was to be written off, and the shares reduced to fully paid shares of 10/- each.

Of the paid-up capital of the 10,000 Preferred Ordinary Shares, upon which £3 per share had been paid, £1 was to be written off, the shares being reduced to shares of £4 each, £2 paid.

Of the paid-up capital of the 5,000 Deferred Ordinary Shares issued, upon which £1/10/- per share had been paid, 10/- per share was to be written off, and the shares reduced to shares of £2 paid to £1.

The unissued shares to remain as before.

TABULAR STATEMENT

Preference Shares

Debit		*Credit*		
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital
	£	£	£	£
Before Reduction . ..	20,000	10,000	2,500	7,500
After Reduction	15,000	10,000	Nil	5,000
Reduction In	£5,000	—	£2,500	£2,500

Preferred Ordinary Shares

Debit	*Credit*			
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital
	£	£	£	£
Before Reduction . . .	50,000	Nil	20,000	30,000
After Reduction	40,000	Nil	20,000	20,000
Reduction In	£10,000	Nil	Nil	£10,000

Deferred Ordinary Shares

Debit	*Credit*			
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital
	£	£	£	£
Before Reduction . . .	30,000	15,000	7,500	7,500
After Reduction	25,000	15,000	5,000	5,000
Reduction In	£5,000	—	£2,500	£2,500

The journal entries for the reduction of the three different classes of shares are so apparent that I do not deem it necessary to show them, and with this statement I am sure you will agree.

Writing Off Lost Capital and Calls in Arrears

The following example will illustrate the working of a problem which involves writing off lost capital, reduces uncalled capital, reduces paid-up capital and involves calls in arrears.

The Balance Sheet of the Australian Company Limited as at December 31, 1937, was as under:

Liabilities	£	*Assets*	£
Nominal Capital—		Business Premises	11,250
75,000 shares of £1 each	75,000	Plant	15,000
Less Unallotted Shares—		Debtors	7,500
15,000 shares of £1 each	15,000	Profit and Loss	10,500
Subscribed Capital	60,000		
Less Uncalled	30,000		
	30,000		
Less Calls in Arrears . . .	150		
Paid-up Capital	29,850		
Debentures	7,500		
Creditors	6,900		
	£44,250		£44,250

The company in general meeting passed a resolution as follows:

(a) To cancel the unallotted shares,
(b) To reduce the Uncalled Capital by 5/- a share,
(c) To write 5/- a share off the paid-up capital.
(d) To write down the business premises to £9,375, and the plant to £13,500,
(e) To write off £1,200 of the book debts as irrecoverable,
(f) To wipe out as far as possible the debit in Profit and loss.

Show the journal entries necessary to record the above transactions and set out the balance sheet after the reduction.

TABULAR STATEMENT

Debit	*Credit*				
	Nominal Capital	Unissued Capital	Uncalled Capital	Paid-up Capital	Calls in Arrears
	£	£	£	£	
Before Reduction . ..	75,000	15,000	30,000	29,850	150
After Reduction	30,000	Nil	15,000	14,850	150
Reduction In	£45,000	£15,000	£15,000	£15,000	—

Journal

Nominal Capital	£45,000	
To Unallotted Shares		£15,000
„ Uncalled Capital		15,000
„ Capital Reduction		15,000
Cancellation of 15,000 Unallotted Shares, reducing Uncalled Capital 5/- a share and Paid-up Capital 5/- a share as per resolution dated.....		
Capital Reduction	15,000	
To Business Premises		1,875
„ Sundry Debtors		1,200
„ Plant		1,500
„ Profit and Loss		10,425
Writing down value of assets and reducing debit in Profit and Loss as per resolution dated.....		

Balance Sheet of the Australian Company Limited as at December 31, 1937

Liabilities	£	*Assets*	£	£
Nominal Capital—		Business Premises ..	11,250	
60,000 shares of 10/- each	30,000	Less Written off ..	1,875	
				9,375
Less Uncalled Capital—		Plant	15,000	
60,000 shares of 5/- each	15,000	Less Written off ..	1,500	
	15,000			13,500
Less Calls in Arrears	150	Debtors	7,500	
		Less Written off ..	1,200	
Paid-up Capital	14,850			6,300
Debentures	7,500	Profit and Loss		75
Creditors	6,900			
	£29,250			£29,250

In a scheme of reduction of capital, should the directors decide to forfeit any shares on which calls are owing, the first step should be to forfeit these shares, and thus obtain the new capital account figures, before proceeding with the entries for the reduction of the capital, which entries will then follow on the same lines as explained previously.

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